

Ambient Water Quality Monitoring System (AWQMS)

User Guide

Version 2.50

June 18, 2013

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Revision History

Version #	Date	Description
1.04	4/24/2008	Initial Draft
1.08	06/18/2009	Added Instructions for Graphs and Reports
1.10	01/22/2010	Added sections on new graphs and the Rapid Data Entry page as well as special instructions on Import Configurations when used for Rapid Data Entry
1.14	12/14/2010	Minor corrections
2.00	06/18/2012	New/updated screenshots. Reworked the Data Analysis section. New user rights management page and project level security. Information about integrated map on monitoring location list page. Rule changes on Results (making Characteristic and Status required). Reworked the sections on Rapid Entry Configurations and Translations. Added a section for the Generate Indices Page, and added information on options that show up when migrating a dataset of Activities and Metrics. Added a section on providing Public Access to your data.
2.50	06/17/2013	<p>Added Section 1.0 Glossary.</p> <p>Updated Section 4.0 Managing Import Configurations – updated screen shots and some revised text</p> <p>Updated Section 4.6 Import Configuration - Advanced Features. Significant revision including examples of import file structure to go along with import configuration and tables describing the resulting element values after the file was imported.</p> <p>Added Section 4.7 Expert Mode.</p>

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1. GLOSSARY

The following is a glossary of some of the acronyms or terms used in this document (and the AWQMS Application). If a definition includes a term that is also in the glossary, it is displayed like [this](#).

Acronym/Term	Definition
Activity	A general term for a field sampling activity that produces one or more Results or Metrics . In AWQMS, an Activity tracks the location, date, and time of the sample or field measurement, as well as the equipment and methods used to collect, transport and store the sample. Each Activity must have its own Activity ID which is used to identify it in the system. An Activity ID must be unique (within your Organization). Accidentally reusing an Activity ID would result in data being overwritten in the system, so it's important to follow a standard that guarantees that each Activity ID is unique.
Activity Group	<p>A Group of Activities that are related. Each Activity Group must have an ID, a Type and include at least two Activities. The following types of groups are currently supported:</p> <p><i>Field Set</i>: all of the field observations, measurements, and samples collected at a monitoring location on a specific date (known in STORET as a "Visit")</p> <p><i>QC Sample</i>: groups the samples and their related QC sample(s). For example, you might group a "Trip Blank" with all the samples from the trip.</p> <p><i>Replicate</i>: links a replicate sample with the original sample (that it would be compared against)</p> <p><i>Subsample</i>: groups composites, splits, or subsamples with their respective parent or related samples.</p>
Attachment	Also known as an Attached Object (in WQX). This is an external file that is attached to a record in the database. The attachment may be a photo, a document, a spreadsheet, etc. The following entities allow attachments: Project , Monitoring Location , Activity , and Result .
AWQMS	<i>Ambient Water Quality Monitoring System</i> . The name for the system described in this document.
CDX	<i>[The] Central Data Exchange</i> . EPA's name for their node on the Exchange Network . Software, like AWQMS, communicates with CDX when it submits data to EPA and checks on the status of those data submissions.
Characteristic	Also known as an analyte or parameter. "Characteristic" is the element which identifies what is being measured in a field/lab Result . For example, a characteristic of "Dissolved oxygen (DO)" indicates that a particular Result is a measurement of the Dissolved Oxygen in a water sample. Some characteristics include a "Pick List" for the respective

	<p><u>Result</u> Value. For example, when the characteristic is set to "Turbidity severity" the <u>Result</u> Value must be one of the following:</p> <p>EXTREME, MILD, MODERATE, NONE, SERIOUS</p>
<u>CSV</u>	<p>Comma Separated Value. A data file formatted as a table, where each column is separated by a comma. Software like Microsoft Excel can export spreadsheets into a CSV format. Files in this format can be imported into AWQMS.</p>
<u>Data Flow</u>	<p>A named standard for a specific type of data exchanged on the <u>Exchange Network</u>. Each data flow has a documented format (typically based on <u>XML</u>) that must be used when submitting that type of data to a node. <u>WQX</u> is the only data flow that is relevant to this document.</p>
<u>Dataset</u>	<p>In the context of AWQMS, a dataset is a collection of data which has been imported into, or exported from, the system. A dataset is a copy of the original data and is temporary. An imported dataset only becomes permanent once it has been <u>migrated</u> successfully. A dataset can be deleted without affecting the original data. In fact it should be deleted as soon as it is no longer needed. Likewise, after a system-defined number of days (since it was imported/exported), a dataset will be automatically deleted from the system. This prevent the system from getting over loaded with temporary data that is no longer used.</p>
<u>Domain Value</u>	<p>Another word for a lookup table value. For example, "Water" is a domain value in the "Activity Media" Domain Value List (or Lookup Table). "Kick Net" is a domain value in the "Sample Collection Equipment" Domain Value List. In this document we will generally use the terms "Lookup Value" and "Lookup Table" rather than "Domain Value" and "Domain Value List".</p>
<u>Element</u> (or Data Element)	<p>In the context of AWQMS, an Element is a piece of information stored in the database. Examples of data elements are "Latitude", "Longitude", "Project Name" and "Activity Start Date". An <u>Import Configuration</u> allows users to map columns in their import files with elements in the database.</p>
<u>Entity</u>	<p>A concept represented by a record in the database. <u>Projects</u>, <u>Monitoring Locations</u>, and <u>Results</u> are examples of entities. An entity has a collection of <u>elements</u> whose values describe it. For example: each <u>Project</u> (entity) has a Project ID, Name, and Description (<u>elements</u>) whose values describe that specific project. The concepts of Entities and Elements are particularly relevant when working with <u>Import Configurations</u></p>
<u>EPA</u>	<p><i>[United States] Environmental Protection Agency</i></p>
<u>Exchange Network</u>	<p>Short for the National Environmental Information Exchange Network (NEIEN). The Exchange Network is an Internet-based system used by states, tribes, and other public/private organizations to securely share environmental data with one another and the EPA. Partners exchange data using a software application known as a <u>node</u>. The largest trading</p>

	<p>partner on the Exchange Network is the EPA. Their <u>node</u> is known by the acronym <u>CDX</u>.</p>
<p><u>IBI</u></p>	<p><i>Index of Biological Integrity</i> (or <i>Index of Biotic Integrity</i>). An IBI uses the results of fish assemblage surveys to assess the ecological quality of waters. An IBI Score is the assessment score for a particular <u>monitoring location</u> on a particular date. An IBI is one type of <u>index</u> that is supported by <u>WQX</u> and AWQMS.</p>
<p><u>ID</u> (or Unique ID)</p>	<p>An abbreviation for "<i>Identifier</i>" (or "<i>Unique Identifier</i>"). IDs can generally contain letters, numbers and other characters and are case-insensitive (e.g. "ABC-1" would be considered the same as "abc-1").</p> <p>Most <u>entities</u> that are imported into the system include an ID. For example: Project ID, Monitoring Location ID, Activity ID, Activity Group ID, Index ID, and Metric ID.</p> <p>IDs are also used to uniquely identify a value in a lookup table. For example: Sample Collection Method ID, or Metric Type ID. All lookup tables have a unique ID, but they are not always called an ID. Sometimes it's the "Name" or "Code" that is the unique ID. For example, "Characteristic Name" is the unique identifier for a Characteristic and "Result Laboratory Comment Code" is the unique identifier for a Result Laboratory Comment.</p> <p>In WQX Web, uniqueness is enforced within a certain "context":</p> <ul style="list-style-type: none"> • For <u>entities</u> that are imported... <ul style="list-style-type: none"> ○ the context is an <u>Organization</u>. For example, one organization can have a <u>Monitoring Location</u> with an ID of "BEAR-RIVER-1", and this will not prevent another <u>Organization</u> from also having a Monitoring Location with an ID of "BEAR-RIVER-1". • For most lookup tables... <ul style="list-style-type: none"> ○ the context is the entire system. In other words, there is only one Characteristic Name of "Dissolved oxygen (DO)" in the system and only one Result Laboratory Comment Code of "EHT" in the system (and these IDs can be used by anyone). • For these lookup tables (Sample Collection Method, Sample Preparation Method, Lab Sample Preparation Method, and Citation)... <ul style="list-style-type: none"> ○ the context is an <u>organization</u>. In other words, values in these tables can only be used by the <u>organization</u> they were created for, and one <u>organization</u> might have an ID that is identical to another <u>organization</u> (without causing any harm to the system). • For these lookup tables (Analytical Method and <u>Metric Type</u>)... <ul style="list-style-type: none"> ○ the context is a parent table called "Analytical Method

	<p>Context" or "Metric Type Context". The "context" represents the group that manages the list of values. This group can be an external organization (like, "IDEXX Laboratories" or "American Society for Testing of Materials") or a WQX Organization (like "Utah Department of Environmental Quality" or "Bishop Paiute Tribe").</p> <ul style="list-style-type: none"> ○ For example: when a Result references an Analytical Method (in an import file), your file must provide an "Analytical Method ID" (like "D1126 ") and an "Analytical Method Context ID" (like "ASTM").
<p><u>Index</u></p>	<p>The general term for each occurrence of a biological or habitat index record within the system. For example, if a habitat assessment is performed each year, for 3 years, on each of 5 monitoring locations, then there will be 15 Index records in the system. Each one will store the habitat assessment score for a particular <u>monitoring location</u> on a particular date.</p> <p>An Index Score is generally the result of aggregating a collection of <u>Metric</u> Scores. For example, individual <u>metric</u> scores are often summed or averaged to determine an overall biological or habitat assessment score for a <u>monitoring location</u>.</p>
<p><u>Index Type</u></p>	<p>The <u>element</u> which describes the type of <u>index</u> that is being evaluated. Before an <u>organization</u> can begin importing their [Biological or Habitat] <u>Index</u> data, they must first populate the table of Index Types that they will be referencing in their files. For example, before importing your <u>IBI</u> data, you must first create an Index Type for your <u>organization</u>. The Index Type ID could be "IBI" and the Index Type Name could be "Index of Biotic Integrity". Each organization can create as many Index Types as they wish.</p>
<p><u>Import Configuration</u></p>	<p>A User-defined description (or map) for each type of file that is imported into the system. In other words, the way that you tell the system how it should interpret your import file is with an "Import Configuration". Import Configurations allow you to list each column that you have in your import file and map it to data <u>elements</u> that exist in <u>WQX</u>. You can create (and save) an unlimited number of Import Configurations, and you can share them with others, as needed.</p>
<p><u>Metric</u></p>	<p>The general term for each occurrence of a biological or habitat metric record within the system. A Metric record holds a value (which is optional) and a score. For example: a metric for "Riparian Vegetation Zone Width" may have a value of "12.5 ft." and a score of "4".</p> <p>Like <u>Results</u>, each Metric in the system, must be part of an <u>Activity</u>. Also, Metrics do not have a [Unique] ID. Because of this, there is no way to add, update, or delete an individual Metric via an import file. You must import an entire <u>Activity</u> (and all of its Metrics). To update a Metric, you need to reimport the Activity and all of its Metrics, rather than just the Metric that changed.</p> <p>A Metric may, optionally, relate to one or more <u>Indices</u>. For example,</p>

	each metric that is used in determining an IBI score, would have a reference to the Index record which holds the IBI Score.
Metric Type	<p>The element which describes the type of metric that is being evaluated. Before an organization can begin importing their Metric data, they must first create the list of Metric Types that they will be using.</p> <p>Examples of habitat metric types are "Riparian Vegetation Zone Width" and "Bank Stability".</p> <p>Examples of biological metric types are "Percent of Tolerant Species" and "Percent of Hybrids".</p>
Migrate	Migrating, in AWQMS, refers to the process of making the data from an imported dataset permanent, by moving it from a temporary staging area to the official AWQMS database.
Monitoring Location	Also known as a site or station. This is the location (on a water body) where samples or field measurements and observations are collected. Before an organization 's Activities , Results , Metrics and Indices can be imported, their Monitoring Locations [List] must be imported and migrated . Updating a Monitoring Location will not affect the Activities , Results , etc. below it. However, deleting a Monitoring Location will also delete the Activities , Results , etc. below it.
NAAS	Network Authentication and Authorization Services. The NAAS is used on the Exchange Network to validate a user before gaining access to a node . AWQMS uses a single NAAS Account for all users, so AWQMS Users do not need to have their own NAAS Account.
Node	Software used to exchange data on the Exchange Network . Nodes can submit data to and request data from other nodes as well as receive data and respond to requests for data from other nodes. The most significant node on the Exchange Network is CDX (operated by the EPA). A limited node, known as a Node Client, is built into AWQMS, so that it can submit data to CDX .
Organization	An state, tribe, volunteer monitoring group, or other public/private organization that manages water monitoring data. A physical organization in the real world, may have multiple Organization records in AWQMS. For example, a state or tribe may choose to have separate Organizations [in AWQMS] for their beach monitoring program and their other monitoring programs. In AWQMS, an Organization is the entity that is the parent of all other entities (e.g. Projects, Monitoring Locations, Activities, etc.). Each Organization has a unique ID (which is approved by the EPA). Likewise, a user must be assigned rights to an Organization before he/she is allowed to import data belonging to it.
Conducting Organization	This is an organization that collects the field samples or measurements. These organizations are not official AWQMS Organizations and do not have unique IDs. An Activity can list as many Conducting Organizations as needed and these organization are not validated in any way. Likewise, the Conducting Organization is not required and is not

	<p>expected when the Conducting Organization is the same as the [AWQMS] Organization for a particular Activity.</p>
Project	<p>Typically refers to a water monitoring project with specific objectives and procedures. However, in the context of AWQMS, a project is an entity created to group monitoring data for a variety of reasons. A project may represent an actual monitoring project, a source of funding (or program), or a department or group within the organization who is interested in a specific set of data.</p> <p>Before an organization's Activities, Results, Metrics and Indices can be imported, their Project [List] must be imported and migrated. Updating a Project will not affect the Activities, Results, etc. below it. However, deleting a Project will also delete the Activities, Results, etc. below it (unless the Activity relates to more than one Project).</p> <p>A Project must include a project description or an attachment (often for the QAPP). Each Activity in AWQMS must be linked to a Project, and can, optionally, be linked to multiple Projects.</p> <p>A Project is also an entity to which a user's rights can be linked. For example, rather than granting a user rights to all data within an organization, a user might be granted rights to just certain projects.</p>
QAPP	<p><i>Quality Assurance Project Plan</i>. Documents the planning, implementation, and assessment procedures for a particular project, as well as any specific quality assurance and quality control activities. All work performed or funded by EPA, that involves the acquisition of environmental data, must have an approved <i>Quality Assurance Project Plan</i>.</p>
QA/QC	<p><i>Quality Assurance/Quality Control</i></p>
Result	<p>This entity describes the results of a field measurement, observation, or laboratory analysis. Each result in the system, must be part of an Activity. Unlike most other entities in the system, Results do not have a Unique ID. Because of this, there is no way to add, update, or delete an individual Result via an import file. You must import an entire Activity (and all of its Results). For example, at a site you collect five Results from your probe. You import and submit these Results as part of a single Activity. You then discover a correction that needs to be made to one of the Results. To avoid any data being dropped from WQX, you need to import and resubmit the Activity and all five Results, rather than just the one that changed.</p>
STORET	<p>STORage and RETrievial [System]. The original name for the system, created by the EPA in the late 1960's, to hold ambient water monitoring data throughout the country. In 1999, EPA created a new system, Modernized STORET, and began referring to the original system as Legacy STORET. In 2006, EPA released WQX to replace STORET. STORET was retired in 2009. Today, STORET no longer refers to a system, but is still used to refer to the national data warehouse that holds data from [Modernized] STORET and from WQX.</p>

<u>Tab-Delimited File</u>	A data file formatted as a table, where each column is separated by a tab character. This is one type of file that is also known as a "text file" or "flat file". Software like Microsoft Excel can export spreadsheets into a tab-delimited format (.txt). Files in this format can also be imported into AWQMS.
<u>WQX</u>	Water Quality Exchange. The data flow (at <u>CDX</u>) and the system at The EPA which receives ambient water monitoring data from organizations throughout the United States. WQX replaced STORET in 2006.
<u>WQX Web</u>	The system created for the EPA by Gold Systems to assist users with converting their data files (in a variety of formats) into the <u>WQX</u> standard format so that they can be submitted to <u>CDX</u> . WQX Web was adopted and greatly expanded into the AWQMS System. AWQMS users have no need to use EPA's WQX Web System (as AWQMS is a superset of WQX Web).
<u>XML</u>	<i>Extensible Markup Language</i> . A common standard for formatting data for computer systems to read. This is the basis for all data exchanged on the <u>Exchange Network</u> (including <u>WQX</u>). It is more difficult for humans to create and/or read than a spreadsheet or text file. AWQMS Users should not generally need to work with XML documents directly.

2. INTRODUCTION

The Water Quality Exchange (WQX) was implemented as the new mechanism for exchanging water quality data between the U.S. Environmental Protection Agency (EPA) and its partners. The WQX adopted a standard format for data submissions, based on Extensible Markup Language (XML) – a computer industry standard for formatted data. Adopting the WQX standard frees a data provider from a dependency on any specific local system for managing and submitting data to EPA.

As part of the transition to WQX and the Exchange Network, EPA discontinued support of the distributed STORET Data Entry Module in Fall 2009. The Ambient Water Quality Monitoring System (AWQMS) was developed as a WQX-compatible data management system, and as a replacement for STORET. Initial input and funding was provided by the EPA, the National Park Service, and several states and tribes. Since 2009, the AWQMS User Community has expanded to over 80 organizations throughout the United States.

3. AWQMS OVERVIEW

3.1 What Does AWQMS Do?

AWQMS is data management system for ambient water quality data. It was specifically designed for compatibility with EPA new WQX. Using AWQMS, you can import and validate your lab and field data, review and modify the data for quality control or other purposes, and then export (and optionally submit) a WQX-compatible file to the EPA.

For installations without their own node on the National Environmental Exchange Network, AWQMS can be configured to directly interact with the Central Data Exchange (CDX), EPA Portal through which environmental data is expected to flow.

3.2 How Does AWQMS Fit into the Big Picture?

In February 2007, the WQX 1.0 was released with the goal of providing EPA partners with a means of exchanging water quality monitoring data via CDX. WQX 1.0 supported physical, chemical, and fish tissue results. WQX 2.0, released in May 2008, incorporated biological and habitat data elements into the schema structure.

The AWQMS provides a complete ambient water quality data management solution that is compatible with EPA's latest WQX standard. It also includes support for data elements not included in WQX. It provides the ability to import and validate lab and field data, review & analyze the data, and then export and submit data to WQX.

3.3 Overview of AWQMS Security

The following is a summary of the security features in AWQMS:

Users: Each user must have an account in the system and must log into the system with his/her password in order to access the system.

Roles: Each user is assigned to a role which will determine their access rights to certain pages or features within the system. Roles are not, for the most part, used to assign rights to data. See "Access Rights" below to understand how users gain access to data. Most users are assigned the "Standard User" role. There are also roles for "Administrator", "Support User", and "Public User" which have different access rights. In general terms, roles grant a user access to pages or functionality in the system.

Access Rights: A user must be granted access to an organization or, optionally, a project within that organization before they can view, edit, or delete data in the system (relating to that organization or project). The highest access right of "Administrator" can also be assigned on an organization or project. An organization administrator can edit the organization (and all its data) as well as manage all organization-specific lookup table values. A project administrator can edit the project he/she is assigned (and all its data).

Lookup tables: Lookup tables fall into one of three main categories:

EPA Managed Tables: Many of the lookup tables in AWQMS are copies of lookup tables from EPA's WQX system and need to stay in sync with WQX to maintain full compatibility. Once or twice a year, updates to these tables are typically included with an AWQMS application update. In a case where the update is needed immediately, a system administrator is allowed to change these tables manually within AWQMS, but caution should be used to make sure the spelling is exactly the same as the WQX System.

Locally Managed Tables: Some of the lookup tables in AWQMS do not exist in WQX. These tables can be managed locally. Many of these tables have values that are linked to a specific organization. When they are, only an organization administrator is allowed to change them. When they are not, only a system administrator is allowed to change them.

Hybrid Tables: A few tables can contain EPA-managed values and locally managed values. In the case of tables like "Analytical Method" and "Metric Type", EPA has built-in support for local values by providing an organization-specific context that can be used to designate local values. However, a few other tables (for example, "Characteristic", "Taxon", and "Result Measure Qualifier") are actually EPA-managed tables in WQX that have been extended in AWQMS to allow local values, which are flagged as "not WQX-compatible." This way, the system knows to not export them when sending data to WQX. Values with an organization-specific context can be modified by an organization administrator. All other values can only be modified by a system administrator.

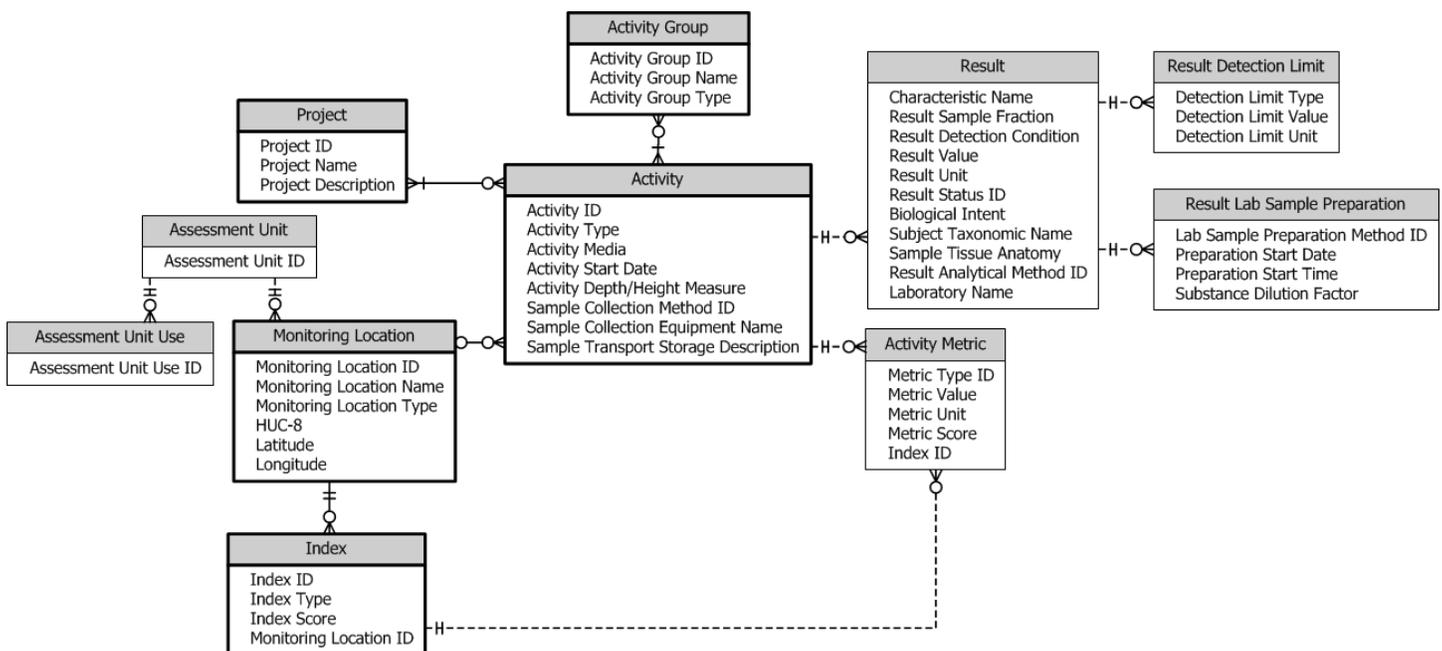
Note that when referencing lookup table values in an import file you typically just need to provide that value's unique ID or Code (such as a Result Status ID). However, with Analytical Method and Metric Type, two values are needed to uniquely identify them in an import file (the ID and Context).

Import Configurations: An import configuration is used to describe what an import file looks like. You can create as many import configurations as you like. By default, the import configuration is only accessible by the user who created it. However, you can assign rights to any additional users. You can also restrict access to be "Read-only", if you wish to allow someone to use it or create copies of it, but not be able to modify it.

Datasets: a collection of data that has been imported for an organization is accessible by anyone who has been granted at least "read-only" rights to the organization.

3.4 Understanding the AWQMS Data Structure

To fully understand how to use AWQMS, it is necessary to first understand the types of data AWQMS supports and how they relate to one another. Below is a simplified model of the entities and elements that exist in AWQMS (as well as the relationships between them).



See Section 1 for a description of each of most of the entities (i.e. boxes) in the model above.

A box of related elements is known as an "entity". Lines connecting boxes represent relationships between entities. A three-pronged symbol (known as a crow's foot) on one end of a line, indicates that

the entity on the other end of the line can relate to more than one of the entity with the crow's foot. For example, an Activity (e.g. a water sample) can relate to more than one Result and a Result can have more than one Result Detection Limit.

3.5 Overview of AWQMS Work Flow

3.5.1 Prepare the Data File for Import

The user gathers their water quality monitoring data into a series of text files that are organized into rows and columns with the columns delimited by a predetermined character such as a comma or a tab. Rows will be designated by a carriage return or line feed. Microsoft Excel supports comma and tab-delimited files from its "Save As" menu. This is convenient if your data is already in a spreadsheet. Lab data or probe data is often in a format supported by AWQMS. In some cases it may be useful to load it into a spreadsheet to do clean up or to add additional values required by AWQMS.

The following types of import files are supported by AWQMS:

- Projects
- Monitoring Locations, Assessment Units, and Reaches
- Biological/Habitat Indices
- Activities and Results
- Activities and Metrics
- Activity Groups
- Thresholds
- IDs for Projects to be Deleted
- IDs for Monitoring Locations to be Deleted
- IDs for Biological/Habitat Indices to be Deleted
- IDs for Activities to be Deleted
- IDs for Activity Groups to be Deleted.

3.5.2 Create an Import Configuration

Before importing a file, a matching import configuration must be defined. An import configuration describes the columns in your import file and maps them to data elements in AWQMS. You can provide default values for elements that may not have a value or that are not included in the file. Additionally, you can define translations to convert values in your files to valid values in AWQMS. You may leverage existing import configurations that have been shared with you (if you belong to a group that follows a standard format for your import files), or you can create import configurations from scratch to match your own proprietary file format.

3.5.3 Import the Data File

To import a file, you will need to indicate the import configuration that describes your import file format. Then browse to your file and begin the import process. As the file is being processed, the system will load your data into a temporary table in the database. This will be called a "Dataset" by the system. The system will also log any warnings or errors that it encounters into an "Event Log". Once the import has completed, a "Dataset Summary Page" will display the following:

- the number of valid and invalid records

- the number of each type of validation error and, in some cases, a link to a page where that type of error can be corrected.
- a link to the Event Log where you can review all errors and warnings encountered while processing the file..

3.5.4 Resolve Validation Errors

There are two approaches to resolving errors with your import file (or dataset).

1. Review the errors in the Event Log, modify the original data file, then reimport the file.
2. Use "Resolution Pages" to fix errors in the dataset and then revalidate the changes.

3.5.5 Migrate the Dataset

Once you have resolved the validation errors in the dataset, you then migrate the dataset into the AWQMS Database using the Migrate button at the bottom of the Dataset Summary Page.

There is also an option, when migrating metrics, to have the system automatically calculate certain types of index scores that are simple sums or averages of the metric scores.

3.5.6 Data Entry

As an alternative to importing data files (as outlined above), you can also hand-enter data into AWQMS using a "Rapid Data Entry" Page. This is a customizable page for data entry of field activities and results.

3.5.7 Managing Data in the Database

Once data is imported or entered into the system, they can be viewed, updated, or deleted. A set of "List Pages" can be used to search for data in the system (e.g. project, monitoring locations, results, etc.) From the List Page, you can click a link to navigate to the respective "Detail Page" where the specific record can be viewed, updated or deleted from the system.

3.5.8 Exporting / Submitting the Dataset to WQX

You can export and (optionally) submit a WQX compatible file. If you belong to an agency or organization with its own Exchange Network Node, you will likely wish to export and download the file and submit the file to WQX via your own node, rather than having AWQMS perform this step.

If you choose to submit your file directly to WQX, the status of that submission will be displayed and you can download related documents once the submission has been processed by the WQX System.

3.6 Standard Page Features

There are many features within AWQMS that are common to all pages or to a group of pages. The subsequent sections describe those common features.

1.1.1 General Page Features

- All dates in the system will be formatted as “MM-DD-YYYY”.
- Pages are designed for screens that are least 1,280 pixels wide (the size of a typical modern laptop).
- Breadcrumb navigation will be available at the top of the page to facilitate navigation to higher-level pages in a hierarchy (see below):

You are here: [Home](#) >> [Import Configurations](#) >> [Import Configuration Detail](#) >> [Translations](#)

- Each page has links at the bottom to access related documents or Web sites.

[AWQMS User Guide](#) | [AWQMS Portal](#) | [STORET - WQX](#)

Note: These links navigate out of the application. It is recommended that you right-click on them and choose to open them in a new tab or new page.

- A navigation panel exists on the left side of the page to assist you in accessing the system's main pages.

Home
Input:
Import Configurations
Import a File
Datasets
Rapid Data Entry
Generate Indices
Management:
Projects
Monitoring Locations
Indices
Activity Groups
Activities
Results
Result Summary
Trip Planning
Output:
Datasets
Data Analysis
Export to WQX
Configuration:
Event Log
Lookup Tables
Organizations
Org. Preferences
User Information
User Preferences
Log Out (45 min.)

All of the links will navigate to a new page.

The "Logout" link is a special case that deserves some explanation. When you click the link your session will be closed and you will return to the Login Page at CDX. This is a good practice when you are done using the application because it frees up resources that are used by your application session.

Also, the Logout link will display the time remaining before you will be automatically logged out (due to inactivity). The time is refreshed every 5 minutes. Any time you perform an action that causes a page to be accessed, the time will reset to its default (45 minutes).

3.6.1 List Page Features

All pages whose purpose is to display a list / table of data will have the following standard features:

- Tables will display a user-specified number of rows (e.g. 500) as defined in your user preferences.
- Row numbers will be displayed to indicate what portion of the total rows you are viewing (e.g. Row 1 - 500 of 29072).

- First, Previous, Next and Last buttons will be available for paging through the list (when there are more than one page of data)
- Column headings can be clicked to sort the list by the selected column. One click will sort in ascending order. A second click will sort in descending order.
- The page will only display data which you have been granted access to.
- Return button – Returns you to the previous page or the page above it in the hierarchy.
- Add New button – Initiates the process of creating a new record for the type of list you are viewing (in most cases this takes you to a detail page where you can add a new record).

Pages with search criteria will include the following:

- Search button – this will initiate the query and return the results to the page.
- Clear button – this will clear the search criteria and previous results.
- Search Criteria – the following types of controls are used for search criteria:
- Dropdown List (see example below)

Organization ID: 

provides you a list of allowed values for the criteria. If there is a blank row in the list, then the criteria is optional.

- Link (see example below)

Taxon: [{none}](#)

Click the link to view a full-page list of allowed values. Some lists (like Taxon or Characteristic may include search criteria to find the value you are looking for). If so, enter a partial name and click the Show Values button.

TAXON

Taxon Name (partial)

Show Values

Cancel

	Rank	
{none}		
Americorophium salmonis	Species	5/10/2008 3:18:56 AM
Anostomus salmoneus	Species	7/26/2006 10:57:48 AM
Conocara salmoneum	Species	7/26/2006 10:57:48 AM
Ericara salmonea	Species	7/26/2006 10:57:48 AM
Ericara salmoneum	Species	7/26/2006 10:57:48 AM
Prionotus salmonicolor	Species	7/26/2006 10:57:48 AM
Salmonidae	Family	7/26/2006 10:57:48 AM
Salmoniformes	Order	7/26/2006 10:57:48 AM
Salmoninae	Subfamily	7/26/2006 10:57:48 AM
Salmonoidei	Order	7/26/2006 10:57:48 AM
Trachipterus rexsalmonorum	Species	7/26/2006 10:57:48 AM

- Then click the value you are interested in to select it.
- A value of **{none}** indicates the criteria should be ignored
- Date (see example below)

Activity Date Between: 

You may enter a date in the box (with the keyboard), or click on the calendar icon to view a calendar, where you can select a date.

- If there is a date range for criteria
 - entering just a beginning date, will find all values on or after that date
 - entering just an end date will find all values before or on that date
 - entering both dates will find a values between (and including) those dates.

- Text Box (see example below)

Monitoring Location ID:

- Allows you to enter any value you wish, as well as a special wildcard character "%" for partial matching.

For example:

- MS500
 - will find rows where the value is "MS500"
- MS%

will find rows where the value starts with "MS"

- %500

will find rows that end with "500"

- %S5%

will find rows that contain "S5" anywhere

3.6.2 Detail Page Features

All pages whose purpose is to serve as a form for viewing and editing records have the following standard features:

- The **Save** button – will validate the data that has changed and then save any changes made to data in the form and then refresh the page. If validation errors are found, the record will be redisplayed (and not saved) and the errors messages will be listed on the page. One exception exists: the Import Configuration Page will save your changes and mark the record invalid if there are validation errors, so you can return and correct them at a later time.
- The **Return** button – will save your changes (if any) and will return you to the previous page, as long as there were no errors while saving.
- The **Cancel** button – will abort any changes made to data on the page since the data was last saved (or since it was retrieved) and then return you to the previous page.
- The **Delete** button – will delete the record displayed on the page. The system will prompt you for confirmation before the record is deleted.
- An **asterisk** at the end of a field label will indicate that the field is always required. However, some fields will be conditionally required based on the existence/non-existence of other values and will not necessarily have an asterisk on their label. The system will notify you of these conditionally required fields when you save the record.

3.6.3 Lookup Table Pages

Lookup tables share many of the features of list pages and detail pages. See section 13.5, Managing Lookup Tables for more details.

3.7 Providing Public Access to AWQMS

AWQMS provides some specific features to support public access to your water quality data. This can be a cost effective way to share your data with the public. It may also fulfill the "freely and publicly accessible" requirement of the Google Maps API License, if you choose to enable the integrated map in AWQMS.

AWQMS provides a configurable message on the login page that can be used to inform the public of a special username and password that the general public can use to access the system (See the AWQMS Installation Instructions for more information). Alternatively, the message could simply notify users that they can request a username/password and provide them a "mailto" link to use for that request. An administrator can then respond to the email requests with an AWQMS username and password for that user. The administrator could:

- create a new user account in AWQMS and respond to the requestor with the specific username/password to use;
- respond with the same user name and password to every public requestor (all public users could use a single username and password);

- respond with one of several public user names that the administrator rotates through when responding to requestors.

The decision depends how much detail your organization wants to track about each individual public user's usage of the system.

Each user that is create for public access should be assigned the role of "Public User". Public users also need to be granted read-only data access rights for the appropriate organizations. When a public user logs in, the system restricts the user's navigation and only displays a limited number of options in the AWQMS navigation panel.



See the "Roles" section of this document for more information on the "Public User" Role.

4. MANAGING IMPORT CONFIGURATIONS

An import configuration defines how AWQMS should interpret an import file. Import Configurations define each column that you will have in your import file, the data elements each column maps to and the format you will use for date, time, latitude, longitude, etc. You can have an unlimited number of Import Configurations. You can limit access to your Import Configuration to specific users or organizations.

The following types of import configurations are supported:

- Projects
- Monitoring Locations, Assessment Units, and Reaches
- Biological/Habitat Indices
- Activities and Results [& Activity Groups]
- Activities and Metrics [& Activity Groups]
- Activity Groups
- Thresholds

There are two methods for creating an Import Configuration:

1. Create a new import configuration from scratch.
2. Copy an existing import configuration.
3. Create an import configuration from a saved file

4.1 Creating a New Import Configuration

Click on the “Import Configurations” link on the navigation panel to display the Import Configurations List Page.

ID	Created By	Name	Type	Valid
3120	Ryan Jorgensen	Monitoring Locations	Monitoring Locations	Yes
3684	Ryan Jorgensen	Results Crosstab New	Activities and Results	Yes
3665	Ryan Jorgensen	Results Demo	Activities and Results	Yes
3615	Ryan Jorgensen	Template Results	Activities and Results	Yes
1065	Al Huefner	WLA Monitoring Locations Import	Monitoring Locations	Yes
1064	Al Huefner	WLA Projects Import Configuration	Projects	Yes
1063	Al Huefner	WLA Results Import Configuration	Activities and Results	Yes
2285	Alex Trounov	Copy of USVI	Activities and Results	Yes
2243	Alex Trounov	New Import Configuration	Projects	Yes
2284	Alex Trounov	New Import Configuration	Activities and Results	No
1734	Alex Trounov	NOAA Charles River	Projects	Yes
1736	Alex Trounov	NOAA Charles River	Monitoring Locations	Yes
1763	Alex Trounov	NOAA Charles River Sediment	Activities and Results	Yes

Return Add New  Row 1 - 500 of 1296 First Prev Next Last

Click the “Add New” button.

The New Import Configuration Page will display.

Select which method to use to create a new import configuration.

from scratch

New Import Configuration

Create a new import configuration:

- from scratch
- by copying an existing one
- by importing a saved file

Import Configuration Type:

Then select the Import Configuration Type
by copying an existing one

New Import Configuration

Create a new import configuration:

- from scratch
- by copying an existing one
- by importing a saved file

Import Configuration Type:

Import Configuration:

Copy Translations

then select the Import Configuration Type and the Import Configuration

If you wish to also copy the translations from that import configuration, select the “Copy Translations” check box.

by importing a saved file

New Import Configuration

Create a new import configuration:

- from scratch
- by copying an existing one
- by importing a saved file

Import Configuration File: *.bin

If you have previously saved an import configuration (as a file), then you can click the Browse button and select an import configuration file

Then click the Continue button to go to the Import Configuration Detail Page, where you can edit and save your new import configuration.

Import Configuration Detail

Type: Activities and Results [Change User Rights](#)

Owner: Ryan Jorgensen [Change Owner](#) [Show Columns as Numbers](#)

Name:* [Enable Expert Mode](#)

Description:

Column Delimiter:* Comma

Generated Values (not in your import file):

Pick	Entity	Element	Default Value	Format
	Organization	Organization ID	{none}	

Columns (in your import file)

Column	Pick	Entity	Element	Default Value	Format	Translations
Remove	A		Activity	Activity ID	<input type="text"/>	0 Add/Edit
Remove	B		Activity	Activity Type	{none}	0 Add/Edit
Remove	C		Activity	Activity Media Name	{none}	0 Add/Edit
Remove	D		Activity	Activity Start Date	<input type="text"/>	<input type="text"/> 0 Add/Edit
Remove	E		Activity Project	Project ID	{none}	0 Add/Edit
Remove	F		Activity	Monitoring Location ID	{none}	0 Add/Edit
Remove	G		Result	Characteristic Name	{none}	0 Add/Edit
Remove	H		Result	Method Speciation	{none}	0 Add/Edit
Remove	I		Result	Result Sample Fraction	{none}	0 Add/Edit
Remove	J		Result	Result Value	<input type="text"/>	0 Add/Edit
Remove	K		Result	Result Unit	{none}	0 Add/Edit
Remove	L		Result	Result Status ID	{none}	0 Add/Edit
Remove	M		Result	Result Analytical Method ID	{none}	0 Add/Edit
Remove	N		Result	Result Analytical Method Context	{none}	0 Add/Edit

Column Header (tab delimited to copy into Excel)

Now you can modify the import configuration to match your import file.

Name:

This is the name that will be displayed on all other pages, when you select an import configuration.

Description:

This is optional if you wish to provide more information about the use of this import configuration.

Column Delimiter:

This is the character you will use in your import file to designate the start of each new column. You can choose from a comma, tab, tilde, or pipe character. A tab or comma are most commonly used, since Microsoft Excel can save a spreadsheet as a "tab-delimited (*.txt)" file or a "CSV (*.csv)" file (comma-separated value).

4.1.1 Generated Values (not in your import file)

This section of the page is for managing data elements whose values will be generated by the system. This is useful for an element that is not included in your import file and whose value will be the same for every row of the file.

New import configurations include one generated element by default: "Organization ID". Since only one Organization ID is allowed per file, it's simpler to generate the value for Organization ID (for each record), rather than having to provide the same value on every row of your file.

To Add a Generated Value...

Click the Pick List button  to display a list of data elements.

Entity		Element
Activity	<input type="checkbox"/>	Activity Bottom Depth/Height Measure
Activity	<input type="checkbox"/>	Activity Bottom Depth/Height Measure Unit
Activity	<input checked="" type="checkbox"/>	Activity Comment 
Activity	<input type="checkbox"/>	Activity Depth Altitude Reference Point
Activity	<input type="checkbox"/>	Activity Depth/Height Measure
Activity	<input type="checkbox"/>	Activity Depth/Height Unit
Activity	<input type="checkbox"/>	Activity End Date
Activity	<input type="checkbox"/>	Activity End Time
Activity	<input type="checkbox"/>	Activity End Time Zone

When you check the box next to an element in the list and click the OK button, the system will add that element to the table of Generated Values.

Import Configuration Detail

Type: Activities and Results [Change User Rights](#)

Name: * Bacteria Results [Show Columns as Numbers](#)

Description: [Enable Expert Mode](#)

Column Delimiter: * Comma

Generated Values (not in your import file):

Pick	Entity	Element	Default Value	Format
	Organization	Organization ID	WQXTEST	
	Activity	Activity Comment 	<input type="text"/>	
	Activity Project	Project ID	{none}	

Likewise, if you uncheck the box next to an element in the list and click the OK button, then the element will be removed.

Each generated value [row] includes an Entity [name], Element [name], Default Value, and, if appropriate, a Format. The Default Value will be displayed as a link or in a text box:

Link: If the element is constrained by a list of allowed values, then it will be displayed as a link. In the example above, links are displayed for Organization ID and Project ID. Links display "{none}" when no value has been set. When you click the link, a list of allowed values will be displayed. If the list is large, you may also be presented with criteria to find the value you are interested in. For example: clicking on the link for Project ID will display the following:

PROJECT

Organization

Project ID (partial)

Once you've entered the Organization [ID], and clicked the Show Values button, the list of matching Projects will be displayed:

PROJECT		
Organization	WQXTEST	
Project ID (partial)	<input type="text"/>	
<input type="button" value="Show Values"/>	<input type="button" value="Cancel"/>	
	Name	Last Change Date
{none}		
1	Devola	1/25/2013 4:12:16 PM
1024 	Miscellaneous ODOT Data Supplied to Ohio EPA	2/14/2013 1:22:06 PM
1032	Reference Data - Resampled	2/14/2013 1:22:06 PM
1050	Invalid Samples	2/13/2013 6:03:43 PM
1085	Walhonding River/Muskingum River Tributaries 2010	2/14/2013 1:22:06 PM

Click the link for the desired Project ID, and that value will now be displayed as the Default Value in your import configuration.

Generated Values (not in your import file):				
Pick	Entity	Element	Default Value	Format
	Organization	Organization ID	WQXTEST	
	Activity	Activity Comment	<input type="text"/>	
	Activity Project	Project ID	1024 	

Text Box: If the generated element is not constrained by a list of values, its default value will be displayed in a text box. In this example, Activity Comment's default value is in a text box. The text box allows any value you wish to enter.

Note: Although generated values must have a value when you import a file, it is not mandatory to set their value in your import configuration. You are given another opportunity to set generated values each time you import a file. *See Section 5.2 for more details.*

For example, suppose you have a policy of creating data files for each project that you have. You don't want to include the Project ID on every row of your file because it's always the same (within a file), so you set up Project ID as a generated value. Because the value will be different for each import file, you don't set a default value for Project ID in your import configuration. In this case, each time you import a new file you will be asked to provide the Project ID for that import file.

If you had the policy described above, but one particular Project ID was used most of the time, then you might choose to set the Project ID in the import configuration. You will still be allowed to override the default value each time you import a new file.

4.1.2 Columns (in your import file)

This section of the page is used to map the columns in your import file to data elements in WQX.

For a new import configuration, you are provided with an initial set of columns and elements that are commonly used.

Columns (in your import file)							
	Column	Pick	Entity	Element	Default Value	Format	Translations
Remove	A		Activity	Activity ID	<input type="text"/>		0 Add/Edit
Remove	B		Activity	Activity Type	{none}		0 Add/Edit
Remove	C		Activity	Activity Media Name	{none}		0 Add/Edit
Remove	D		Activity	Activity Start Date	<input type="text"/>	<input type="text"/>	0 Add/Edit
Remove	E		Activity Project	Project ID	{none}		0 Add/Edit
Remove	F		Activity	Monitoring Location ID	{none}		0 Add/Edit
Remove	G		Result	Characteristic Name	{none}		0 Add/Edit
Remove	H		Result	Method Speciation	{none}		0 Add/Edit
Remove	I		Result	Result Sample Fraction	{none}		0 Add/Edit
Remove	J		Result	Result Value	<input type="text"/>		0 Add/Edit
Remove	K		Result	Result Unit	{none}		0 Add/Edit
Remove	L		Result	Result Status ID	{none}		0 Add/Edit
Remove	M		Result	Result Analytical Method ID	{none}		0 Add/Edit
Remove	N		Result	Result Analytical Method Context	{none}		0 Add/Edit

Each row in the table (above) represents a column in your import file and describes how that column maps to one or more elements in WQX .

Each row has the following features.

- **"Remove"** Link: click this link to remove a row (i.e. import column).



- **Column:** this represents the column's position in your import file. Depending on the value in your user preferences, the position will be represented by a number (1, 2, 3...) or a letter (A, B, C...). Likewise, you can temporarily toggle this setting by clicking on the "Show Columns as Numbers" or "Show Column as Letters" link.

Import Configuration Detail

Type: Activities and Results [Change User Rights](#)

Owner: Ryan Jorgensen [Change Owner](#) [Show Columns as Numbers](#)

Name: * [Disable Expert Mode](#)

If you typically view your import file using a tool like Microsoft Excel, then letters may be preferred (to numbers) because Excel uses letters for each column in a spreadsheet.

If you wish to change a column's position, select a new value from the dropdown list.

	Column	Pick	Entity	Element
Remove	A		Activity	Activity Type
Remove	B		Activity	Activity Media Name
Remove	C		Activity	Activity ID
Remove	D		Activity	Activity Start Date
Remove	A		Activity	Monitoring Location ID
Remove	B		Activity	Monitoring Location ID
Remove	C		Activity	Monitoring Location ID
Remove	D		Result	Characteristic Name
Remove	E		Result	Characteristic Name
Remove	F		Result	Characteristic Name

After the new position is selected, the column positions update accordingly (i.e. "Activity Start Date" moves from Column D to Column B, in this example).

	Column	Pick	Entity	Element
Remove	A		Activity	Activity Type
Remove	B		Activity	Activity Start Date
Remove	C		Activity	Activity Media Name
Remove	D		Activity	Activity ID
Remove	E		Activity	Monitoring Location ID
Remove	F		Result	Characteristic Name

- **Pick:** Click this button to pick the data element(s) that are mapped to an import column.

Click the last button in the table to add a new column to your import configuration (and to map the elements for the new column).

Remove	N		Result	Result Analytical Method Context	{none}

After clicking this button a list of elements will display

Entity	Element
Activity	<input type="checkbox"/> Activity Bottom Depth/Height Measure
Activity	<input type="checkbox"/> Activity Bottom Depth/Height Measure Unit
Result	<input checked="" type="checkbox"/> Result Detection Condition
Result	<input type="checkbox"/> Taxonomist Accreditation Authority
Result	<input type="checkbox"/> Taxonomist Accreditation Indicator
Result	<input type="checkbox"/> Unidentified Species ID
Result	<input type="checkbox"/> Upper Confidence Limit
Result Attachment	<input type="checkbox"/> Result Attachment File Name
Result Attachment	<input type="checkbox"/> Result Attachment Type
Result Detection Limit	<input checked="" type="checkbox"/> Result Detection/Quantitation Limit Measure
Result Detection Limit	<input checked="" type="checkbox"/> Result Detection/Quantitation Limit Type
Result Detection Limit	<input checked="" type="checkbox"/> Result Detection/Quantitation Limit Unit

Elements are grouped by the entity they belong to. For example, Activity-level elements and Result-level elements are group separately.

Select one or more elements that you wish to add. The order you select them in is not important at this time...

After you click the OK button, the elements will be added to your import configuration.

Remove	M		Result	Result Analytical Method ID	{none}	0 Add/Edit
Remove	N		Result	Result Analytical Method Context	{none}	0 Add/Edit
Remove	O		Result	Result Detection Condition	{none}	0 Add/Edit
Remove	P		Result Detection Limit	Result Detection/Quantitation Limit Measure	<input type="text"/>	0 Add/Edit
Remove	Q		Result Detection Limit	Result Detection/Quantitation Limit Type	{none}	0 Add/Edit
Remove	R		Result Detection Limit	Result Detection/Quantitation Limit Unit	{none}	0 Add/Edit

You are allowed to map more than one data element to a single import column. To do this, you need to check the checkbox at the top of the list (titled "Map selected elements to [a] single column").

<input type="button" value="OK"/>	<input type="button" value="Cancel"/>	<input type="button" value="Ignore Column"/>	<input type="checkbox"/> Map selected elements to a single column
Entity		Element	
Activity	<input type="checkbox"/>	Activity Bottom Depth/Height Measure	

See Section 4.6 (Advanced Features) for more information.

You are also allowed to have a column mapped to no elements. This tells the system to ignore the column in that position in your import file. A quicker way to do this is to click the "Ignore Column" button on the Elements Pick List

<input type="button" value="OK"/>	<input type="button" value="Cancel"/>	<input type="button" value="Ignore Column"/>	selected elements to single column?
Entity		Element	
Activity	<input type="checkbox"/>	Activity Bottom Depth/Height Measure	
Activity	<input type="checkbox"/>	Activity Bottom Depth/Height Measure Unit	

and then the column will be ignored

Remove	O		Result	Result Detection Condition	{none}	0 Add/Edit
Remove	P		Result Detection Limit	Result Detection/Quantitation Limit Measure	<input type="text"/>	0 Add/Edit
Remove	Q		Result Detection Limit	Result Detection/Quantitation Limit Type	{none}	0 Add/Edit
Remove	R		Result Detection Limit	Result Detection/Quantitation Limit Unit	{none}	0 Add/Edit
Remove	S		{Ignore Column}			

- **Entity:** This shows the name of the entity that an element belongs to. If a column is not mapped to any elements, then "{Ignore Column}" will be displayed (which means this column in your import file will be ignored).
- **Element:** This shows the name of the data element(s) that are mapped to a specific import column.

- **Default Value:** Set a default value if you wish to have the system fill in a value for this data element when one is not provided in your import file. As mentioned previously, default values are displayed in two different ways: links or text boxes, depending on whether the element is constrained by a list of allowed values. When the default value is a link, and has not been set, it will display "{none}".

Note: default values behave a bit differently when a column is mapped to more than one data element. *See Section 4.6 (Advanced Features) for more information.*

If you wish to remove the default value when the value is displayed as a link, click the link and select the value titled "{none}" from the list of values.

- **Format:** In order for the system to know how to interpret certain types of data in your import file, a format may need to be selected. The system requires that you indicate the format you plan to use for the following types of data: dates, times, latitude, longitude, and yes/no fields. For example: below we have indicated that our Activity Start Date will be formatted as "MM/DD/YYYY" (e.g. 05/04/2013, 05-04-2013, or 05.04.2013)

Column	Pick	Entity	Element	Default Value	Format	Translations
Remove	D ▼		Activity	Activity Start Date		MM/DD/YYYY ▼

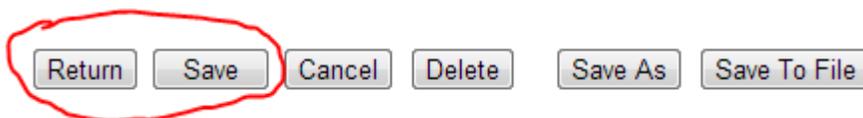
- **Translations:** Displays the number of translations that have been created for a specific import column. Also, provides a link to add or edit the list of translations.

Translations

2 [Add/Edit](#)

See the next section for details on managing translations.

Once you have completed the mapping process and filled in defaults and formats, click the Save button (or Return button) to save your changes.



Your import configuration will then be checked to make sure it is valid. If there are any errors, they will be displayed at the top of the page.

Import Configuration Detail

The import configuration has been saved, but is invalid and cannot be used until the warnings are resolved.

* Based on the current elements you have included, the following elements would also be required (once per entity): **Characteristic Name**

* **Activity Start Date must have a format.**

Type: Activities and Results [Change User Rights](#)

Owner: Ryan Jorgensen [Change Owner](#) [Show Columns as Numbers](#)

Name:* [Enable Expert Mode](#)

Description:

Column Delimiter:*

In the example above, an element (Characteristic Name) needs to be added to the import configuration and the Activity Start Date needs to have its format indicated. While these issues remain, your import configuration will be flagged as invalid and will not be able to be used when importing a file.

Correct the issues described and save your changes again.

If the import configuration is valid, the errors will disappear and a message will state that the import configuration was saved successfully.

4.2 Managing Translations for an Import Column

Translations are used to automatically convert a value in your import file to an alternate value in the dataset that will be sent to EPA. Most often, translations are used to convert a value that is not compatible with WQX into something that is. For example, a translation could be used to convert “DO” in your import file to “Dissolved oxygen (DO)” in your dataset (making the value valid for WQX).

Translations can also be used to convert one value in the import file to multiple values in your dataset. See Section 4.6 (Advanced Features) for more information.

To add or edit translations:

Select the Add/Edit link in the Translations Count column of your import configuration.

Column	Pick	Entity	Element	Default Value	Format	Translations
A		Result	Characteristic Name	{none}		0 Add/Edit

This takes you to the Translations Page for that import column.

Translations	
Del	Translate From: Characteristic Name
<input type="checkbox"/>	DO Dissolved oxygen (DO)
<input type="checkbox"/>	HCl Hydrochloric acid
	<input type="text"/> {None}

Each translation has at least two parts: the value from the import file (labeled “Translate From”) and the value for the data element(s) in the dataset (labeled “Translate To”). The example above shows a translation for “DO” in the import file that will create a value of “Dissolved oxygen (DO)” for the Characteristic Name element in your dataset.

The bottom row of the table can be used for adding a new translation. Once you’ve entered the appropriate values on the bottom row, clicking the Save button will save your new translation and give you another blank row where you can add an additional translation, if you wish.

To delete a translation:

- Check the Del checkbox next to one or more translations
- Click the Delete button to remove the translations
- Click the Save button (or Return button) to save the changes.

4.3 Viewing/Editing an Import Configuration

Click on the "Import Configurations" link on the navigation panel or click on the "Create or Edit an Import Configuration" link on the Home Page to display the Import Configurations list page.

ID	Owner	Name	Type	Valid
2157	Ryan Jorgensen	Import Monitoring Locations	Monitoring Locations	Yes
2158	Ryan Jorgensen	Import Projects	Projects	Yes
2159	Ryan Jorgensen	Import Results	Activities and Results	Yes
2043	Ryan Jorgensen	Monitoring Locations Simple	Monitoring Locations	Yes
1064	Ryan Jorgensen	Projects Full	Projects	Yes
1080	Ryan Jorgensen	Projects Simple	Projects	Yes
1351	Ryan Jorgensen	R10	Activities and Results	No
2160	Ryan Jorgensen	Results Crosstab New	Activities and Results	Yes
2139	Ryan Jorgensen	Results Crosstab Old	Activities and Results	Yes
2155	Ryan Jorgensen	Results Demo	Activities and Results	Yes
1092	Ryan Jorgensen	Results Expanded	Activities and Results	Yes

Return Add New Row 1 - 243

Click on the link for the Import Configuration you wish to view. The Import Configuration Details page will be displayed, where you can view or edit the import configuration.

Note: While you have a dataset in the system that relates to an import configuration, certain types of changes to the import configuration are not allowed (such as changing column positions, data elements that map to them, or deleting the import configuration). The system will display a message at the top of the Import Configuration Details page for any Import Configuration that has associated datasets. You will have to delete the associated dataset(s) before you will have full access to change the import configuration. See Section 5 for an explanation of datasets.

Import Configuration Detail	
Certain types of changes to this import configuration have been restricted while there are existing datasets that depend on it. View Dataset(s)	
Type:	Activities and Results Change User Rights
Owner:	Ryan Jorgensen Change Owner Show Columns as Numbers
Name:*	<input type="text" value="Results Demo"/> Enable Expert Mode
Description:	<input type="text"/>
Column Delimiter:*	Comma <input type="button" value="v"/>

4.4 Deleting an Import Configuration

You can delete an import configuration by clicking the Delete button on the Import Configuration Detail page.

Delete this import configuration?

Type 'Yes' and click 'OK'.

Confirm the deletion by typing "Yes" in the box and clicking the OK button.

The system will return you to the Import Configuration list page after performing the delete.

4.5 Managing Users' Rights on an Import Configuration

Click the “Change User Rights” link on the top-right side of the Import Configuration Detail page...

Import Configuration Detail

Type: Activities and Results [Change User Rights](#) 

Owner: Ryan Jorgensen [Change Owner](#)
[Show Columns as Numbers](#)
[Disable Expert Mode](#)

Name:*

Description:

Column Delimiter:*

... and the User Rights page will then be displayed.

User Access Rights

Import Configuration:

	User	Access Type
Delete	Ryan Jorgensen	<input type="text" value="Edit/Delete"/>
Add	<input type="text"/>	<input type="text" value="Read Only"/>

To assign a new user rights to this import configuration:

1. Navigate to the last row of the list labeled “Add”.
2. Choose the user.
3. Choose the access type you wish the user to have:
 - a. Read Only – User can view the import configuration but can’t modify or delete it.
 - b. Edit – User can view and edit the import configuration but can’t delete it.
 - c. Edit/Delete – User can view, edit, and delete the import configuration.

To remove a user’s rights to an organization:

Click the Delete link for the appropriate row.

Click the Save button to save your changes (and remain on the page). Click the Return button to save and return to the previous page.

4.6 Import Configuration – Advanced Features

Import Configurations can be leveraged in a number of powerful ways. However, that power also comes with some extra complexity. This section will highlight some of the powerful features and provide some specific examples of how to solve some problems that you may be faced with.

One of the features of an import configuration is the ability to map one import column to more than one WQX element.

To do this, click on the Pick List Button

Columns (in your import file)							
	Column	Pick	Entity	Element	Default Value	Format	Translations
Remove	A ▼		Activity	Activity ID	<input type="text"/>		0 Add/Edit

This will open the Elements Pick List. At the top of the page, check the box that says "Map selected elements to a single column". If this is the pick list for an existing import column, rather than a new import column, then this box will be checked automatically.

<input type="button" value="OK"/>	<input type="button" value="Cancel"/>	<input type="button" value="Ignore Column"/>	<input checked="" type="checkbox"/> Map selected elements to a single column
Entity		Element	
Activity	<input checked="" type="checkbox"/>	Activity Bottom Depth/Height Measure	
Activity	<input checked="" type="checkbox"/>	Activity Bottom Depth/Height Measure Unit	
Activity	<input type="checkbox"/>	Activity Comment	

Now, all elements that are checked (above) will be mapped to a single column (e.g. Column "B" below).

Columns (in your import file)							
	Column	Pick	Entity	Element	Default Value	Format	Translations
Remove	A ▼		Activity	Activity ID	<input type="text"/>		0 Add/Edit
Remove	B ▼		Activity	Activity Bottom Depth/Height Measure	<input type="text"/>		0 Add/Edit
			Activity	Activity Bottom Depth/Height Measure Unit	{none}		

The following sections will describe some specific ways that this feature can be used.

4.6.1 Copying one value from your file to more than one element in WQX

One reason to map a column to more than one element is when you actually want to populate both elements with the same value from your import file. Although this is not common, there may be times that it is useful. In this case, you would map the column to the data elements and make sure to not set the default values for any of them and to not create any translations on the column (because defaults and translations will change the behavior).

For example: You want to provide a Top and Bottom Depth on an Activity and do not want to have to provide the Units twice. In the example below, we have mapped the Top Depth Measure[ment] to column A, the Bottom Depth Measure[ment] to column B, and the units for both of them to column C (rather than having to provide the units in columns C and D of our file).

	Column	Pick	Entity	Element	Default Value	Format	Translations
Remove	A ▼		Activity	Activity Top Depth/Height Measure	<input type="text"/>		0 Add/Edit
Remove	B ▼		Activity	Activity Bottom Depth/Height Measure	<input type="text"/>		0 Add/Edit
Remove	C ▼		Activity	Activity Bottom Depth/Height Unit	{none}		0 Add/Edit
			Activity	Activity Top Depth/Height Unit	{none}		

Keep in mind that this is only appropriate when you know you would always populate both of these element values together. If it were not true that top and bottom depth are always provided together, it wouldn't be appropriate to always populate their measurement units from the same column in the import file (because the system will log an error whenever there are units without its respective measurement). For example if the import file below was used with this import configuration ...

A	B	C
Top	Bottom	Units
3	6	ft
2		ft
	5	ft

then the WQX Elements would be populated as follows and would cause errors on rows 2 and 3:

Activity				
Activity Top Depth Measure	Activity Top Depth Units	Activity Bottom Depth Measure	Activity Bottom Depth Units	
3	ft	6	ft	
2	ft		ft	Error: Units cannot be provide without a measurement
	ft	5	ft	Error: Units cannot be provide without a measurement

4.6.2 Generating a Value Conditionally

Remember that Generated Values are used to populate an element with a single default value on every row of your file. For example, if you add the element *Activity Start Time Zone* to the Generated Values Section and set its value to "EST" (Eastern Standard Time), then every row of your imported data will get a generated value of "EST" for its *Activity Start Time Zone*. This would be appropriate if you always include a Start Time on every row. However, if there are activities that have a Start Time and some that do not, then a generated value for the Time Zone would not be appropriate.

Suppose you have the following import configuration:

Generated Values (not in your import file):				
Pick	Entity	Element	Default Value	Format
	Activity	Activity Start Time Zone	EST	

Columns (in your import file)							
	Column	Pick	Entity	Element	Default Value	Format	Translations
Remove	A		Activity	Activity Start Date		MM/DD/YYYY	0 Add/Edit
Remove	B		Activity	Activity Start Time		HH:MI:SS PM	0 Add/Edit

and the following (partial) import file:

A	B
Date	Time
09/05/2013	10:35:12 AM
09/06/2013	

then the WQX Elements would be populated as follows, and would cause an error on row 2:

Activity			
Activity Start Date	Activity Start Time	Activity Start Time Zone	
09/05/2013	10:35:12 AM	EST	
09/06/2013		EST	Error: Activity Start Time is required when Activity Start Time Zone is provided

To avoid this error, we want to only generate a value for Time Zone when there is a value for Time in the import file. You can accomplish this by mapping the Time and Time Zone to the same import column and then providing a default value for the Time Zone, as follows:

Generated Values (not in your import file):

Pick	Entity	Element	Default Value	Format

Columns (in your import file)

	Column	Pick	Entity	Element	Default Value	Format	Translations
Remove	A		Activity	Activity Start Date	<input type="text"/>	MM/DD/YYYY	0 Add/Edit
Remove	B		Activity	Activity Start Time	<input type="text"/>	HH:MI:SS PM	0 Add/Edit
			Activity	Activity Start Time Zone	<u>EST</u>		

With this import configuration, the same import file...

A	B
Date	Time
09/05/2013	10:35:12 AM
09/06/2013	

will populate the WQX Elements as follows (avoiding the previous error on row 2):

Activity		
Activity Start Date	Activity Start Time	Activity Start Time Zone
09/05/2013	10:35:12 AM	EST
09/06/2013		

There are many other cases where you may wish to generate a value conditionally. Here are a few examples:

- Generate the value for Horizontal Collection Method and Coordinate Reference System Datum on an Activity whenever latitude or longitude is provided on an Activity.
- Generate the value for a Measurement Unit whenever the related Value is provided.
- Generate the value for Activity Group Type whenever an Activity Group ID is provided (this special case is described in more detail in a subsequent section)

It is important to note that there are three distinct behaviors for a Default Value (depending on context).

- When a Default Value exists for an element in the Generated Values section...
 - That element receives the default value 100% of the time.
- When a Default Value exists for an element that is the only element mapped to an import column...
 - That element receives the default value only when there is no value in your import file (in that column position)
 - Otherwise, that element receives the value from the import file
- When a Default Value exists for an element that is one of many elements mapped to an import column...
 - That element receives the default value only when there is a value in your import file (in that column position)
 - and the other elements mapped to that import column that do not have a default will receive the value from the import file

4.6.3 Using Translations to Populate Many Related Elements

One common reason to map one column to more than one element is when the value in your file contains more than one piece of information. Using translations you can break the value into its relevant components. For example: Your lab provides you with a file that includes a parameter code from which you can derive the analyte, sample fraction, units, and analytical method used for a particular result. You could open the file with Microsoft Excel, create four new columns, and manually type in the values for each of these items on every row, or you could map that one import column to the data elements you want to populate and then create translations to document how you want them to be populated. The advantage of this approach is that you only have to do it once in your import configuration and the system will perform the conversion every time you import a file.

For example, if you selected following elements from the Elements Pick List and checked the box to "Map selected elements to a single column"...

Map selected elements to a single column

Entity	Element
Result	<input checked="" type="checkbox"/> Characteristic Name
Result	<input type="checkbox"/> Confidence Interval
Result	<input type="checkbox"/> Lower Confidence Limit
Result	<input checked="" type="checkbox"/> Method Speciation
Result	<input type="checkbox"/> Precision
Result	<input checked="" type="checkbox"/> Result Analytical Method Context
Result	<input checked="" type="checkbox"/> Result Analytical Method ID
Result	<input type="checkbox"/> Result Comment
Result	<input type="checkbox"/> Laboratory Accreditation Indicator
Result	<input type="checkbox"/> Laboratory Name
Result	<input checked="" type="checkbox"/> Result Sample Fraction
Result	<input type="checkbox"/> Result Sampling Point Name
Result	<input type="checkbox"/> Result Status ID
Result	<input checked="" type="checkbox"/> Result Unit
Result	<input type="checkbox"/> Result Value

Then these elements would all be mapped to a single column (e.g. Column B below):

Columns (in your import file)							
	Column	Pick	Entity	Element	Default Value	Format	Translations
Remove	A		Activity	Activity ID	<input type="text"/>		0 Add/Edit
Remove	B		Result	Characteristic Name	{none}		0 Add/Edit
			Result	Method Speciation	{none}		
			Result	Result Analytical Method Context	{none}		
			Result	Result Analytical Method ID	{none}		
			Result	Result Sample Fraction	{none}		
			Result	Result Unit	{none}		
Remove	C		Result	Result Value	<input type="text"/>		0 Add/Edit

Now, click the Add/Edit link for Column B to add translations. The Translations page will open.

Del	Translate From:		Translate To:			
	Characteristic Name	Method Speciation	Result Analytical Method Context	Result Analytical Method ID	Result Sample Fraction	Result Unit
	<input type="text"/>	{None}	{None}	{None}	{None}	{None}
	<input type="button" value="Return"/>	<input type="button" value="Save"/>	<input type="button" value="Cancel"/>	<input type="button" value="Delete"/>		

Notice that there is a text box under "Translate From" where you can place the value that will be in your import file. Under "Translate To" there are six fields (one for each element this import column maps to). These are the values you want to populate in your dataset when the value in "Translate From" shows up in your import file.

Fill in the appropriate values for the translations.

Translate From:		Translate To:				
Characteristic Name	Method Speciation	Result Analytical Method Context	Result Analytical Method ID	Result Sample Fraction	Result Unit	
<input type="text" value="NO3"/>	Nitrate	as NO3	USEPA	353.3	Total	mg/l

Select the Return button to save your translation

Then, if you imported a file like this...

A	B	C
Activity ID	Parameter	Value
M192-2013-05-04F	NO3	.183

then the WQX Elements would be populated as follows:

Activity	Result						
Activity ID	Characteristic Name	Method Speciation	Result Analytical Method Context	Result Analytical Method ID	Result Sample Fraction	Result Unit	Result Value
M192-2013-05-04F	Nitrate	as NO3	USEPA	353.3	Total	mg/l	.183

This is a powerful feature for minimizing unnecessary data in your import file (when values can be derived).

Note: It is important to recognize that when you have a translation on a column that maps to more than one element, you typically need to provide translations for every value that might be used in your import file. If the system does not find a translation to match a value in your import file, it will apply the value from the import file to all elements that are mapped to the column (as described in section 4.5.1).

Note: When you map a column to multiple elements you will typically use defaults or translations (as described in the previous sections). Mixing Default Values and Translations can be done, but is not generally needed and can create more confusing import configurations. If you chose to mix these two methods, be aware of the following rule (when a column maps to more than one data element):

Translations have precedence over default values. When your file is imported, the system will check whether a value in your file matches a translation. If there's a match, it will populate the element values from values in your translation. If there is no match, then it will copy the value from your file into the elements without a default and will populate the rest of the elements with the default values in your import configuration.

4.6.4 Using a Data Element Multiple Times in an Import Configuration

There are places in the Data Model where an element or entity (i.e. set of elements) can have more than one value. Think of this as an element that has more than one value per row in your import file. Here are some examples:

- A Monitoring Location can have multiple Alternate IDs
- An Activity can have multiple...
 - Project IDs
 - Conducting Organizations
- A Metric can have multiple Index IDs
- A Result can have multiple sets of...
 - Frequency Class Information
 - Detection Limit Information
 - Lab Sample Preparation Information
- A Taxon (within a Result) can have multiple...
 - Habits
 - Functional Feeding Groups

To model these scenarios in an import configuration, you should add the repeating elements as many times as needed (each to their own import column). For example: If you know that, in your situation, an Activity can relate to up to two projects, you should add the Project ID twice.

Remove	D ▾		Activity Project #1	Project ID	{none}	0 Add/Edit
Remove	E ▾		Activity Project #2	Project ID	{none}	0 Add/Edit

In this case, column D and E of your import file will be used for the Project IDs on an Activity. If an Activity in your import file has only one project, then put the Project ID value in column D or E and leave the other column blank. If it has two projects, then put them in column D and E of your file.

Note, in the image above, that when you include an element more than once in your import configuration, the Entity [Name] includes a #. For example, when you only have one Project ID, the entity is "Activity Project", but when you add a second Project ID, the entities change to "Activity Project #1" and "Activity Project #2" respectively. This highlights the fact that up to two Project references can be made per row of your import file.

There are limitations to which elements can be used more than once, unless you enable "Expert Mode" (*described in section 4.7*).

A more complex example of repeating elements might be something like Frequency Class Information, which is used to classify a group of taxa that are being counted in a biological survey. Frequency Classes include a descriptor, and for certain types of classes, an upper and lower bound and units. For example: You may be conducting a fish survey and counting the number of fish (of a particular species) and

grouping your counts by sex and weight. In this case, sex and weight are each Frequency Class Descriptors and the weight needs a lower/upper bound with a measurement unit. Your import file would need two Frequency Class Descriptors and might contain values, as shown in the table below:

A	B	C	D	E	F
Descriptor 1	Descriptor 2	Lower Bound	Upper Bound	Units	Count
Male	Weight	0	100	g	3
Male	Weight	101	300	g	6
Female	Weight	0	100	g	1
Female	Weight	101	300	g	5

To support this data, your import configuration would look something like the following:

	Column	Pick	Entity	Element	Default Value	Format	Translations
Remove	A		Result Frequency Class #1	Frequency Class Descriptor	{none}		0 Add/Edit
Remove	B		Result Frequency Class #2	Frequency Class Descriptor	{none}		0 Add/Edit
Remove	C		Result Frequency Class #2	Frequency Class Lower Bound	<input type="text"/>		0 Add/Edit
Remove	D		Result Frequency Class #2	Frequency Class Upper Bound	<input type="text"/>		0 Add/Edit
Remove	E		Result Frequency Class #2	Frequency Class Unit	{none}		0 Add/Edit
Remove	F		Result	Result Value	<input type="text"/>		0 Add/Edit

This allows a Result, in your import file, to have two sets of Frequency Class Information: the first set (#1) starting at Column A and the second set (#2) starting at Column B. In this example, the first set of Frequency Class Information does not need a Lower/Upper Bound or Units, so they are not included. Otherwise, they could be added (after Column A).

It's useful to understand that, when an import configuration contains an element more than once, the entity # that's assigned is based on the column it is mapped to. Once an element is reused, a new entity # is started, and all elements mapped to subsequent columns will relate to that new entity #.

In the previous example, Column B includes a second Frequency Class Descriptor, which starts "Result Frequency Class #2". All other frequency-class elements (Lower Bound, Upper Bound, and Unit) on Columns C, D, and E, all relate to #2. These entity # assignments are appropriate. However, consider the following example, where that is not the case:

What if we wanted to change our column order in our file like this (with the second "Frequency Class Descriptor" in column E)?

A	B	C	D	E	F
Descriptor 1	Lower Bound	Upper Bound	Units	Descriptor 2	Count
Male	0	100	g	Weight	3
Male	101	300	g	Weight	6
Female	0	100	g	Weight	1
Female	101	300	g	Weight	5

Our intention is to have the Lower Bound, Upper Bound, and Units (in columns B, C, and D) to be part of the Frequency Class that includes the Descriptor in Column E. However, because of the entity # assignment rule, mentioned previously, that does not happen:

	Column	Pick	Entity	Element	Default Value	Format	Translations
Remove	A		Result Frequency Class #1	Frequency Class Descriptor	{none}		0 Add/Edit
Remove	B		Result Frequency Class #1	Frequency Class Lower Bound	<input type="text"/>		0 Add/Edit
Remove	C		Result Frequency Class #1	Frequency Class Upper Bound	<input type="text"/>		0 Add/Edit
Remove	D		Result Frequency Class #1	Frequency Class Unit	{none}		0 Add/Edit
Remove	E		Result Frequency Class #2	Frequency Class Descriptor	{none}		0 Add/Edit
Remove	F		Result	Result Value	<input type="text"/>		0 Add/Edit

Because the Descriptor is the first [Frequency Class] Element to be repeated, that marks the beginning of Frequency Class #2. This highlights the importance of checking the entity # when you repeat elements in your import configuration, to make sure your file will be interpreted the way you intend.

If you were to add a Lower Bound, Upper Bound, and Unit before our first descriptor, then the entity #s are correct again.

	Column	Pick	Entity	Element	Default Value	Format	Translations
Remove	A		Result Frequency Class #1	Frequency Class Lower Bound	<input type="text"/>		0 Add/Edit
Remove	B		Result Frequency Class #1	Frequency Class Upper Bound	<input type="text"/>		0 Add/Edit
Remove	C		Result Frequency Class #1	Frequency Class Unit	{none}		0 Add/Edit
Remove	D		Result Frequency Class #1	Frequency Class Descriptor	{none}		0 Add/Edit
Remove	E		Result Frequency Class #2	Frequency Class Lower Bound	<input type="text"/>		0 Add/Edit
Remove	F		Result Frequency Class #2	Frequency Class Upper Bound	<input type="text"/>		0 Add/Edit
Remove	G		Result Frequency Class #2	Frequency Class Unit	{none}		0 Add/Edit
Remove	H		Result Frequency Class #2	Frequency Class Descriptor	{none}		0 Add/Edit

In conclusion: if you create more than one entity in an import configuration, it's safest to include the same elements on each entity. If you chose to eliminate some unnecessary elements from one of the entities, be sure that the first element on the second entity is an element that is common to both entities (as was done on the first Frequency Class example).

4.6.5 Special Case: Activity Groups in a file of Activities and Results

Activity Groups are useful when you have a collection of related Activities that you wish to group together for various purposes which include (Field Sets, Replicates, grouping Samples and Subsamples, and grouping Routine Samples with their related Quality Control Samples). In data-modeling terms, the relationship between Activities and Activity Groups is referred to as "many to many" which means that an Activity can belong to many Activity Groups and an Activity Group can contain many Activities. Addressing this complex relationship in a flat file could be challenging, but with the support of some specific features in WQX Web, there are ways to address this that are fairly simple.

An Activity Group contains the following elements: Activity Group ID, Type, Name (optional), and two or more Activity IDs. WQX Web understands the relationship between Activities and Activity Groups and

does not require that you indicate the Activity ID (for the Activity Group), because you've already provided it for the Activity on that row. So, at a minimum, you will need a way to provide the Activity Group ID and Type (and optionally Activity Group Name) on a row of your import file.

One way to address this in your import configuration is to map one column to the Activity Group ID and another column to the Type.

	Column	Pick	Entity	Element	Default Value	Format	Translations
Remove	A		Activity Group	Activity Group ID	<input type="text"/>		0 Add/Edit
Remove	B		Activity Group	Activity Group Type	{none}		0 Add/Edit

In this example, if you wanted to include a specific Activity in an Activity Group, you would list the Activity Group's ID in column A and its Type in column B. For example:

A	B	C	D	E
Group ID	Group Type	Activity ID	Parameter	Value
F1	Field Set	M192-2013-05-04F	pH	8.3
		M192-2013-05-04F	DO	10.9
F1	Field Set	M192-2013-05-04B	Fecal Coliform	180
R1	Replicate	M192-2013-05-04C1	Chlorophyll a	4.63
		M192-2013-05-04C1	Escherichia	4.63
R1	Replicate	M192-2013-05-04C2	Chlorophyll a	4.63
		M192-2013-05-04C2	Escherichia	5.12

This would create two Activity Groups with two Activities in each group:

Activity Group		Activity
Activity Group ID	Activity Group Type	Activity ID
F1	Field Set	M192-2013-05-04F
		M192-2013-05-04B
R1	Replicate	M192-2013-05-04C1
		M192-2013-05-04C2

If you wanted to avoid the need to provide the Activity Group Type for every group, you could map the Activity Group ID and Type to the same column and provide a default value for the Type. For example, this import configuration would use Column A for "Field Set" Groups and Column B for "Replicate" Groups:

	Column	Pick	Entity	Element	Default Value	Format	Translations
Remove	A		Activity Group #1	Activity Group ID	<input type="text"/>		0 Add/Edit
			Activity Group #1	Activity Group Type	Field Set		
Remove	B		Activity Group #2	Activity Group ID	<input type="text"/>		0 Add/Edit
			Activity Group #2	Activity Group Type	Replicate		

This would also allow one Activity to belong to two Activity Groups (if needed) because there are now two Activity Groups per row (in your import file):

This import file...

A	B	C	D	E
Field Set Group ID	Replicate Group ID	Activity ID	Parameter	Value
F1		M192-2013-05-04F	pH	8.3
		M192-2013-05-04F	DO	10.9
F1		M192-2013-05-04B	Fecal Coliform	180
F2	R1	M192-2013-05-04C1	Chlorophyll a	4.63
		M192-2013-05-04C1	Escherichia	4.63
F2	R1	M192-2013-05-04C2	Chlorophyll a	4.63
		M192-2013-05-04C2	Escherichia	5.12

would create three Activity Groups with two Activities in each:

Activity Group		Activity
Activity Group ID	Activity Group Type	Activity ID
F1	Field Set	M192-2013-05-04F
		M192-2013-05-04B
F2	Field Set	M192-2013-05-04C1
		M192-2013-05-04C2
R1	Replicate	M192-2013-05-04C1
		M192-2013-05-04C2

4.6.6 Attachments

WQX Web allows you to attach external files (like pictures, documents, etc.) to any Project, Monitoring Location, Activity or Result. There are two parts to doing this:

- Reference the file name and type for each attachment in your import file.
- Include all of the attachment files in a zip file and upload it at the same time as your import file.

To allow you to include the attachment file name and type in your import file, you need to create two columns in your import configuration and map them to these two elements. For example.:

Remove	D		Activity Attachment	Activity Attachment File Name	<input type="text"/>	0 Add/Edit
Remove	E		Activity Attachment	Activity Attachment Type	<input type="text"/>	0 Add/Edit

Then, if you imported a file like this:

A	B	C	D	E
Activity ID	Parameter	Value	Photo File Name	File Type
M192-2013-05-04F	pH	8.3	P1070346.JPG	JPG
M192-2013-05-04F	DO	10.9		
M192-2013-05-04B	Fecal Coliform	180	P1070347.JPG	JPG
M192-2013-05-04C1	Chlorophyll a	4.63		
M192-2013-05-04C1	Escherichia	4.63		
M192-2013-05-04C2	Chlorophyll a	4.63	P1070348.JPG	JPG
M192-2013-05-04C2	Escherichia	5.12		

You would have three Activities with attachments (photos) related to each one.

If all of your attachments were the same type, you could drop Column E and map the Attachment Type to Column D (with a default value), like this:

Remove	D		Activity Attachment	Activity Attachment File Name	<input type="text"/>	0 Add/Edit
			Activity Attachment	Activity Attachment Type	JPG	

Then your import file would look like this:

A	B	C	D
Activity ID	Parameter	Value	Photo File Name
M192-2013-05-04F	pH	8.3	P1070346.JPG
M192-2013-05-04F	DO	10.9	
M192-2013-05-04B	Fecal Coliform	180	P1070347.JPG
M192-2013-05-04C1	Chlorophyll a	4.63	
M192-2013-05-04C1	Escherichia	4.63	
M192-2013-05-04C2	Chlorophyll a	4.63	P1070348.JPG
M192-2013-05-04C2	Escherichia	5.12	

4.7 Expert Mode

Several additional features of an import configuration are only made available when "Expert Mode" is enabled. As the name implies, this mode is intended for users that have a very good understanding of an import configuration and the WQX Data Model. It is highly recommended that a user review all of the previous sections (4.0 – 4.5) before reading this section.

One of the primary reasons to enable Expert Mode is for support of crosstab files (*see Section 1 Glossary for more information*). However, some of the additional features may be useful in other contexts as well.

There is a link in the upper right corner of the page to "Enable Expert Mode"

Import Configuration Detail		
Type:	Activities and Results	Change User Rights
Owner:	Ryan Jorgensen Change Owner	Show Columns as Numbers
Name:*	<input type="text" value="Crosstab Example"/>	Enable Expert Mode

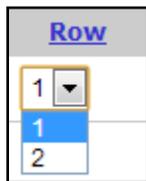
4.7.1 Header-Row Columns

In Expert Mode, there is a new section of the page called "Header-Row Columns". This section of the page is used to indicate header rows (in your import file) which you want to ignore, or to map specific header rows and columns (in your import file) that contain data that you wish to map to elements in WQX.

The "Header-Row Columns" section looks similar to the "Columns" section on a standard import configuration (see section 4.1.2 of this document), but it includes two additional attributes (Row and Entity #):

Header-Row Columns (a single value here applies to each regular row of your import file):								
Row	Column	Pick	Entity	Entity #	Element	Format	Translations	

- **Row:** This indicates the row number (e.g. 1, 2, 3) for the header row. The Row # can be changed by picking a new value from the drop-down list



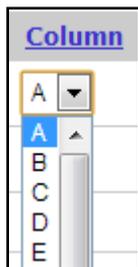
The values in the list are always one more than the current number of rows. For example: if you have created 3 rows so far, then the list will include 1 – 4.

- **Entity #:** This indicates the entity number that a particular element belongs to. If you had multiple Activities, for example, you would be able to tell that a particular element is for the first Activity (i.e. "1") or second Activity (i.e. "2") or even that an element is for the first Result under the second Activity (i.e. Result "2.1"). *This will be covered in more detail later on.*

This attribute is also worth noting:

- **Column:** this represents the column position of an element in a header row of your import file. In conjunction with the Row #, this targets a specific row and column (i.e. cell – in spreadsheet terms). In other words, elements in the header relate to a specific row and column (i.e. cell) in the header.

The column position can be changed by picking a new value from the drop-down list



The values in the list are equal to the number of Regular Columns currently defined in the import configuration. **Because of this, it often preferable to set up your Regular Columns (described in Section 4.7.2) before setting up your Header-Row Columns (here).**

The list of Header-Row Columns can also be sorted by their Row [Position] or Column [Position] by clicking on the links at the top of the list:

Header-Row Columns (a single value here applies to each regular row of your import file):								
Row	Column	Pick	Entity	Entity #	Element	Format	Translations	

In cases where you have many Header-Row Columns it can be useful to sort them one way or the other.

Header-Row Columns have two purposes, detailed in the next two sections:

4.7.1.1 Ignoring a row in your file

When you first enable Expert Mode, the Header-Row Columns section looks like this:

Header-Row Columns (a single value here applies to each regular row of your import file):								
	Row	Column	Pick	Entity	Entity #	Element	Format	Translations
Remove	1			{Ignore Row}				

Notice that Row 1 says "{Ignore Row}". This indicates that the first row of your file will be ignored. This is useful when the first row of your import file has column headings, that you do not want to import.

In Expert Mode, you are allowed to ignore many header rows, if needed.

Click on the Pick List Button at the bottom of the list...

Header-Row Columns (a single value here applies to each regular row of your import file):								
	Row	Column	Pick	Entity	Entity #	Element	Format	Translations
Remove	1			{Ignore Row}				

and then click on the "Ignore Row" button on the Elements Pick List that pops up...

<input type="button" value="OK"/>	<input type="button" value="Cancel"/>	<input type="button" value="Ignore Row"/>
Entity	Element	
Activity	<input type="checkbox"/> Activity Bottom Depth/Height Measure	
Activity	<input type="checkbox"/> Activity Bottom Depth/Height Unit	
Activity	<input type="checkbox"/> Activity Comment	

Now you will have two header rows that are ignored:

Header-Row Columns (a single value here applies to each regular row of your import file):								
	Row	Column	Pick	Entity	Entity #	Element	Format	Translations
Remove	1			{Ignore Row}				
Remove	2			{Ignore Row}				

4.7.1.2 Mapping a header row and column to an element

A header row and column can be mapped to an element whose value should be applied to all (regular) rows of your import file. This allows you to avoid creating a column in your import file when the value on every row will be the same. Instead, you can provide the value once at the top of your file.

Suppose we want to relate an entire file of activities and results with up to three projects and also be able to enter a single comment for all of the activities in our file. We might build a file like this (with the first three rows as header rows):

A	B	C	D	E
Project ID (1-3):	MAIN	PUB	VOL-SP	
Activity Comment:	Earth Day Volunteer Sampling			
Date	Activity ID	Location ID	Parameter	Value
05/04/2013	M192-2013-05-04F	M192	pH	8.3
05/04/2013	M192-2013-05-04F	M192	DO	10.9
05/04/2013	M192-2013-05-04F	M192	Temperature	20.6
05/04/2013	M121-2013-05-04F	M121	pH	9.1
05/04/2013	M121-2013-05-04F	M121	DO	13.48
05/04/2013	M121-2013-05-04F	M121	Temperature	19.7

Then, to support these three header rows in our import file, we would make the following changes in the "Header-Row Columns" Section of our import configuration:

Click on the Pick List Button at the bottom of the list...

Header-Row Columns (a single value here applies to each regular row of your import file):								
	Row	Column	Pick	Entity	Entity #	Element	Format	Translations
Remove	1			{Ignore Row}				

Then check the box for "Project ID" on the Elements Pick List

Activity Group	<input type="checkbox"/>	Activity Group Name
Activity Group	<input type="checkbox"/>	Activity Group Type
Activity Project	<input checked="" type="checkbox"/>	Project ID
Organization	<input type="checkbox"/>	Organization ID

Click OK.

Now Project ID will be mapped to Row 2, Column A (by default):

Header-Row Columns (a single value here applies to each regular row of your import file):								
	Row	Column	Pick	Entity	Entity #	Element	Format	Translations
Remove	1			{Ignore Row}				
Remove	2	A		Activity Project	1.1	Project ID		0 Add/Edit

Change it to Row 1, Column B to match our import file. This will also cause the "Ignore Row" to move to Row 2.

Header-Row Columns (a single value here applies to each regular row of your import file):								
	Row	Column	Pick	Entity	Entity #	Element	Format	Translations
Remove	1	B		Activity Project	1.1	Project ID		0 Add/Edit
Remove	2			{Ignore Row}				

Repeat this process to add two more "Project ID" elements and move them to Row 1 Column C and Row 1 Column D:

Header-Row Columns (a single value here applies to each regular row of your import file):								
	Row	Column	Pick	Entity	Entity #	Element	Format	Translations
Remove	1	B		Activity Project	1.1	Project ID		0 Add/Edit
Remove	1	C		Activity Project	1.2	Project ID		0 Add/Edit
Remove	1	D		Activity Project	1.3	Project ID		0 Add/Edit
Remove	2			{Ignore Row}				

Now, add an "Activity Comment" element and map it to Row 2 Column B.

See below how our Import Configuration now fully describes the first three header rows of our import file (colored boxes have been added to highlight how the import configuration maps to the import file):

Header-Row Columns (a single value here applies to each regular row of your import file):								
	Row	Column	Pick	Entity	Entity #	Element	Format	Translations
Remove	1	B		Activity Project	1.1	Project ID		0 Add/Edit
Remove	1	C		Activity Project	1.2	Project ID		0 Add/Edit
Remove	1	D		Activity Project	1.3	Project ID		0 Add/Edit
Remove	2	B		Activity	1	Activity Comment		0 Add/Edit
Remove	3			{Ignore Row}				

Import File

A	B	C	D	E
Project ID (1-3):	MAIN	PUB	VOL-SP	
Activity Comment:	Earth Day Volunteer Sampling			
Date	Activity ID	Location ID	Parameter	Value
05/04/2013	M192-2013-05-04F	M192	pH	8.3
05/04/2013	M192-2013-05-04F	M192	DO	10.9
05/04/2013	M192-2013-05-04F	M192	Temperature	20.6
05/04/2013	M121-2013-05-04F	M121	pH	9.1
05/04/2013	M121-2013-05-04F	M121	DO	13.48
05/04/2013	M121-2013-05-04F	M121	Temperature	19.7

1B, 1C, and 1D of our file map to a Project ID

2B of our file maps to an Activity Comment

Row 3 is ignored

If we were to complete the Import Configuration, by defining all of the Regular Columns, and then import this file, then the following WQX Elements would be populated. The elements populated from a Header-Row Column are highlighted in red.

Activity				Activity Project			Result	
Date	Activity ID	Location ID	Activity Comment	Project ID	Project ID	Project ID	Parameter	Value
05/04/2013	M192-2013-05-04F	M191	Earth Day Volunteer Sampling	MAIN	PUB	VOL-SP	pH	8.3
							DO	10.9
							Temperature	20.6
05/04/2013	M192-2013-05-04F	M121	Earth Day Volunteer Sampling	MAIN	PUB	VOL-SP	pH	9.1
							DO	13.48
							Temperature	19.7

Before wrapping up our discussion of Header-Row Columns, let's clarify how the new Entity # attributes are assigned (in this example).

Header-Row Columns (a single value here applies to each regular row of your import file):								
	Row	Column	Pick	Entity	Entity #	Element	Format	Translations
Remove	1	B		Activity Project	1.1	Project ID		0 Add/Edit
Remove	1	C		Activity Project	1.2	Project ID		0 Add/Edit
Remove	1	D		Activity Project	1.3	Project ID		0 Add/Edit
Remove	2	B		Activity	1	Activity Comment		0 Add/Edit
Remove	3			{Ignore Row}				

In Expert Mode the "Entity #" can be a compound value (e.g. "1.3" or "2.2" or even "2.3.1"). This value holds two pieces of information: which entity number an element belongs to, and, in some cases, which entity is the parent of that entity.

Entities exist in a hierarchy, where one can be the child of another. In our example above, we have an Activity with an Entity # "1", which means it's the first Activity. We also have several "Activity Project" entities with Entity #s "1.1", "1.2", and "1.3", which means that they are the first, second and third "Activity Project" entities under the first Activity. See the WQX Data Model in Section 3.4 for an overview of this hierarchy – although "Activity Project" is not specifically shown. Also, these Entity #s will be more useful when we discuss how to support a crosstab-style import file (in Section 4.7.3).

4.7.2 Regular Columns

In Expert Mode, the "Columns" section (described in Section 4.1.2 of this document) is now called "Regular Columns" to distinguish it from the "Header-Row Columns" section which is also on the page. Initially, the label at the top of this section will indicate that the "Regular Columns [are] starting at row 2 of our import file". This is because Row 1 is defined as a header row (by default).

Regular Columns (starting at row 2 of your import file) 

	Column	Pick	Entity	Entity #	Element	Default Value	Format	Translations
Remove	A		Activity	1	Activity ID	<input type="text"/>		0 Add/Edit
Remove	B		Activity	1	Activity Type	{none}		0 Add/Edit
Remove	C		Activity	1	Activity Media Name	{none}		0 Add/Edit

In other words, the Header-Row Columns section of the page is used to define the columns in each header row of our import file and the Regular Columns section of the page is used to define the columns that are in every subsequent row of our import file.

If we were to create 3 header rows, like we did previously, then the label on our Regular Columns would indicate that the Regular Columns start on row 4.

Regular Columns also have an "Entity #" attribute.

Regular Columns (starting at row 2 of your import file)

	Column	Pick	Entity	Entity #	Element	Default Value	Format	Translations
Remove	A		Activity	1	Activity ID	<input type="text"/>		0 Add/Edit
Remove	B		Activity	1	Activity Type	{none}		0 Add/Edit
Remove	C		Activity	1	Activity Media Name	{none}		0 Add/Edit
Remove	D		Activity	1	Activity Start Date	<input type="text"/>	<input type="text"/>	0 Add/Edit
Remove	E		Activity Project	1.1	Project ID	{none}		0 Add/Edit
Remove	F		Activity	1	Monitoring Location ID	{none}		0 Add/Edit
Remove	G		Activity	1	Sample Collection Method ID	{none}		0 Add/Edit
Remove	H		Activity	1	Sample Collection Equipment Name	{none}		0 Add/Edit
Remove	I		Result	1.1	Result Detection Condition	{none}		0 Add/Edit
Remove	J		Result	1.1	Characteristic Name	{none}		0 Add/Edit

Initially, these will all be 1, 1.1, or even 1.1.1, because there are only one of each entity in a default import configuration.

However, if we were to add any element more than once, this would no longer be true.

For example, if we add a second Project ID, and move it to column F, its Entity # will be 1.2 (meaning it's the second Project under the first Activity):

Regular Columns (starting at row 2 of your import file)

	Column	Pick	Entity	Entity #	Element	Default Value	Format	Translations
Remove	A		Activity	1	Activity ID	<input type="text"/>		0 Add/Edit
Remove	B		Activity	1	Activity Type	{none}		0 Add/Edit
Remove	C		Activity	1	Activity Media Name	{none}		0 Add/Edit
Remove	D		Activity	1	Activity Start Date	<input type="text"/>	<input type="text"/>	0 Add/Edit
Remove	E		Activity Project	1.1	Project ID	{none}		0 Add/Edit
Remove	F		Activity Project	1.2	Project ID	{none}		0 Add/Edit
Remove	G		Activity	1	Monitoring Location ID	{none}		0 Add/Edit
Remove	H		Activity	1	Sample Collection Method ID	{none}		0 Add/Edit
Remove	I		Activity	1	Sample Collection Equipment Name	{none}		0 Add/Edit
Remove	J		Result	1.1	Result Detection Condition	{none}		0 Add/Edit
Remove	K		Result	1.1	Characteristic Name	{none}		0 Add/Edit

The assignment of Entity #s is straightforward for simple entities, like an Activity Project, with only one element (Project ID). However entities, like an Activity or Result, are more complex and merit additional clarification.

The following rule dictates how WQX Web assigns an Entity #:

When a duplicate element is added to an import configuration, a new entity instance is created at that column position and a new Entity # is assigned. All other elements that belong to that same entity, and are in a higher column position, will also be assigned that Entity #.

The following example will help demonstrate this rule:

Suppose we add a second Activity ID element to our import configuration and move it to Column D:

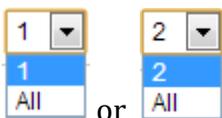
Regular Columns (starting at row 2 of your import file)									
	Column	Pick	Entity	Entity #	Element	Default Value	Format	Translations	
Remove	A		Activity	1	Activity ID	<input type="text"/>		0	Add/Edit
Remove	B		Activity	1	Activity Type	{none}		0	Add/Edit
Remove	C		Activity	1	Activity Media Name	{none}		0	Add/Edit
Remove	D		Activity	2	Activity ID	<input type="text"/>		0	Add/Edit
Remove	E		Activity	2	Activity Start Date	<input type="text"/>	<input type="text"/>	0	Add/Edit
Remove	F		Activity Project	2.1	Project ID	{none}		0	Add/Edit
Remove	G		Activity Project	2.2	Project ID	{none}		0	Add/Edit
Remove	H		Activity	2	Monitoring Location ID	{none}		0	Add/Edit
Remove	I		Activity	2	Sample Collection Method ID	{none}		0	Add/Edit
Remove	J		Activity	2	Sample Collection Equipment Name	{none}		0	Add/Edit
Remove	K		Result	2.1	Result Detection Condition	{none}		0	Add/Edit
Remove	L		Result	2.1	Characteristic Name	{none}		0	Add/Edit

Previously all Activity elements had an Entity # of "1". Now, Column D, is mapped to a second "Activity ID". Two Activity IDs can't exist on the same Activity, so a new Activity is started (i.e. Entity # "2") on column D.

Also, notice that every subsequent Activity element (on columns E, H, I, and J) also has an Entity # of "2". Once a new entity is created, all subsequent elements (in higher column positions) relate to that same Entity #. Likewise, the Activity Project entities on columns F and G, and the Result entities on columns K and L have changed from 1.1 to 2.1, indicating that they now relate to the second Activity, because the second Activity starts at column D.

In addition to the Entity #s changing, notice that some of the Entity # values are in a drop-down list (e.g. columns B, C, E, H, I, J).

When there are more than one of a particular entity instance (e.g. Activity - in this example), but a particular element, on that entity instance, exists only once, then that element gets a drop-down list. There are only two values in the drop-down list: the default entity # assigned by the system, and "All".



If you were to select "All" from the drop-down list for "Activity Media Name" on Column C, for example, then you are saying that you want Column C (of your import file) to be used as the Activity Media Name for all Activities (on a particular row of the import file), not just for Activity #1.

Regular Columns (starting at row 2 of your import file)								
	Column	Pick	Entity	Entity #	Element	Default Value	Format	Translations
Remove	A		Activity	1	Activity ID	<input type="text"/>		0 Add/Edit
Remove	B		Activity	1	Activity Type	{none}		0 Add/Edit
Remove	C		Activity	All	Activity Media Name	{none}		0 Add/Edit
Remove	D		Activity	2	Activity ID	<input type="text"/>		0 Add/Edit
Remove	E		Activity	2	Activity Start Date	<input type="text"/>	<input type="text"/>	0 Add/Edit

If we were to add a second "Activity Media Name" element and move it to column D, then the drop-down list on Activity Media Name would go away, and the first one will be assigned to Activity #1 and the second one will be assigned to Activity #2.

Regular Columns (starting at row 2 of your import file)								
	Column	Pick	Entity	Entity #	Element	Default Value	Format	Translations
Remove	A		Activity	1	Activity ID	<input type="text"/>		0 Add/Edit
Remove	B		Activity	1	Activity Type	{none}		0 Add/Edit
Remove	C		Activity	1	Activity Media Name	{none}		0 Add/Edit
Remove	D		Activity	2	Activity Media Name	{none}		0 Add/Edit
Remove	E		Activity	2	Activity ID	<input type="text"/>		0 Add/Edit
Remove	F		Activity	2	Activity Start Date	<input type="text"/>	<input type="text"/>	0 Add/Edit

This behavior will be leveraged in our crosstab example in the next section.

4.7.3 Creating an Import Configuration to Support a Crosstab-style Import File

A crosstab file is a special type of spreadsheet or flat file format where column headers contain data that relates to all the rows of the file, and, in some cases, row headers relate to all the columns on a particular row. A crosstab file is more concise than a standard file, because it avoids some of the repetition that occurs in a standard file and typically includes more than one of the same type of entity on a single row of the file. For example you could include many results on a single row (rather than just one).

Here is an example of a crosstab file that has one Activity and three Results (for Temperature, DO, and pH) per row:

A	B	C	D	E	F	G	H
				Characteristic ->	Temperature	DO	pH
				Units ->	Deg C	mg/l	none
Activity ID	Date	Location ID	Result Depth (m)	Fraction ->		Dissolved	
A-1	5/4/2013	ML-1	1		-0.1	2.5	8.1
A-1	5/4/2013	ML-1	3			2.4	8.34
A-2	5/5/2013	ML-2	1		9.8	8.8	8.8
A-2	5/5/2013	ML-2	3		7	9.2	8.5
A-3	5/6/2013	ML-3	1		2.3	2.9	9.1
A-3	5/6/2013	ML-3	3		2.9	1.9	8.55

Now, let's build an import configuration to support this file.

As mentioned previously, it's recommended that you create the regular columns in your import configuration before the header-row columns (because a regular column must exist in a specific position before a header-row column can be placed in that position).

Start by mapping Column A to Activity ID, B to Activity Start Date, and C to Monitoring Location ID:

Regular Columns (starting at row 2 of your import file)								
	Column	Pick	Entity	Entity #	Element	Default Value	Format	Translations
Remove	A		Activity	1	Activity ID	<input type="text"/>		0 Add/Edit
Remove	B		Activity	1	Activity Start Date	<input type="text"/>	DD/MM/YYYY	0 Add/Edit
Remove	C		Activity	1	Monitoring Location ID	{none}		0 Add/Edit

Column D is for our Result Depth (in meters), so map Result Depth Measure and Result Depth Unit to Column D and then set the default value for the Units to "m".

Remove	D		Result	1.1	Result Depth/Height Measure	<input type="text"/>		0 Add/Edit
			Result	1.1	Result Depth/Height Unit	<u>m</u>		

Column E of our file doesn't contain data, so we want to ignore it.

Remove	E		{Ignore Column}					
------------------------	---	--	-----------------	--	--	--	--	--

Columns F, G, and H will hold our three Result Values (for Temperature, DO, and pH):

Remove	F		Result	1.1	Result Value	<input type="text"/>		0 Add/Edit
Remove	G		Result	1.2	Result Value	<input type="text"/>		0 Add/Edit
Remove	H		Result	1.3	Result Value	<input type="text"/>		0 Add/Edit

Now that we have three Results in our import configuration, but only one Result Depth and Units, the Entity # for them has changed to a drop-down list. Let's change the value to "All" because Column D of our import file contains the Depth for all three Results on each row.

Remove	D		Result	All	Result Depth/Height Measure	<input type="text"/>		0 Add/Edit
			Result	All	Result Depth/Height Unit	<u>m</u>		

See below how our Import Configuration now describes the regular rows of our import file (colored boxes have been added to highlight how the import configuration maps to the import file):

Regular Columns (starting at row 2 of your import file)									
	Column	Pick	Entity	Entity #	Element	Default Value	Format	Translations	
Remove	A		Activity	1	Activity ID			0 Add/Edit	
Remove	B		Activity	1	Activity Start Date		DD/MM/YYYY	0 Add/Edit	
Remove	C		Activity	1	Monitoring Location ID	{none}		0 Add/Edit	
Remove	D		Result	All	Result Depth/Height Measure			0 Add/Edit	
			Result	All	Result Depth/Height Unit	m			
Remove	E		{Ignore Column}						
Remove	F		Result	1.1	Result Value			0 Add/Edit	
Remove	G		Result	1.2	Result Value			0 Add/Edit	
Remove	H		Result	1.3	Result Value			0 Add/Edit	

Import File

A	B	C	D	E	F	G	H
				Characteristic ->	Temperature	DO	pH
				Units ->	Deg C	mg/l	none
Activity ID	Date	Location ID	Result Depth (m)	Fraction ->		Dissolved	
A-1	5/4/2013	ML-1	1		-0.1	2.5	8.1
A-1	5/4/2013	ML-1	3			2.4	8.34
A-2	5/5/2013	ML-2	1		9.8	8.8	8.8
A-2	5/5/2013	ML-2	3		7	9.2	8.5
A-3	5/6/2013	ML-3	1		2.3	2.9	9.1
A-3	5/6/2013	ML-3	3		2.9	1.9	8.55

Now let's create our Header-Row Columns:

Add three "Characteristic Name" elements to header row 1 and columns F, G, and H.

Header-Row Columns (a single value here applies to each regular row of your import file):								
	Row	Column	Pick	Entity	Entity #	Element	Format	Translations
Remove	1	F		Result	1.1	Characteristic Name		0 Add/Edit
Remove	1	G		Result	1.2	Characteristic Name		0 Add/Edit
Remove	1	H		Result	1.3	Characteristic Name		0 Add/Edit

Now, add three "Result Unit" elements to header row 2 and columns F, G, and H.

Remove	2	F		Result	1.1	Result Unit		0 Add/Edit
Remove	2	G		Result	1.2	Result Unit		0 Add/Edit
Remove	2	H		Result	1.3	Result Unit		0 Add/Edit

and add three "Result Sample Fraction" elements to row 3 and columns F, G, and H.

Remove	3	F		Result	1.1	Result Sample Fraction	0 Add/Edit
Remove	3	G		Result	1.2	Result Sample Fraction	0 Add/Edit
Remove	3	H		Result	1.3	Result Sample Fraction	0 Add/Edit

We have now completed mapping all of our header-row columns. As a final check to make sure our mapping is correct, click on the link at the top of the Column list to sort the Header-Row Columns by their column position. Note that Header-Row Column F and Regular Column F both map to Result #1.1. Likewise, Column G in both lists maps to Result #1.2 and Column H to Result #1.3.

Header-Row Columns (a single value here applies to each regular row of your import file):								
	Row	Column	Pick	Entity	Entity #	Element	Format	Translations
Remove	1	F		Result	1.1	Characteristic Name		0 Add/Edit
Remove	2	F		Result	1.1	Result Unit		0 Add/Edit
Remove	3	F		Result	1.1	Result Sample Fraction		0 Add/Edit
Remove	1	G		Result	1.2	Characteristic Name		0 Add/Edit
Remove	2	G		Result	1.2	Result Unit		0 Add/Edit
Remove	3	G		Result	1.2	Result Sample Fraction		0 Add/Edit
Remove	1	H		Result	1.3	Characteristic Name		0 Add/Edit
Remove	2	H		Result	1.3	Result Unit		0 Add/Edit
Remove	3	H		Result	1.3	Result Sample Fraction		0 Add/Edit

Regular Columns (starting at row 4 of your import file)								
	Column	Pick	Entity	Entity #	Element	Default Value	Format	Translations
Remove	F		Result	1.1	Result Value	<input type="text"/>		0 Add/Edit
Remove	G		Result	1.2	Result Value	<input type="text"/>		0 Add/Edit
Remove	H		Result	1.3	Result Value	<input type="text"/>		0 Add/Edit

See below how our Import Configuration now fully describes the Header-Rows Columns of our import file (colored boxes have been added to highlight how the import configuration maps to the import file):

Header-Row Columns (a single value here applies to each regular row of your import file):

	Row	Column	Pick	Entity	Entity #	Element	Format	Translations
Remove	1	F		Result	1.1	Characteristic Name		0 Add/Edit
Remove	2	F		Result	1.1	Result Unit		0 Add/Edit
Remove	3	F		Result	1.1	Result Sample Fraction		0 Add/Edit
Remove	1	G		Result	1.2	Characteristic Name		0 Add/Edit
Remove	2	G		Result	1.2	Result Unit		0 Add/Edit
Remove	3	G		Result	1.2	Result Sample Fraction		0 Add/Edit
Remove	1	H		Result	1.3	Characteristic Name		0 Add/Edit
Remove	2	H		Result	1.3	Result Unit		0 Add/Edit
Remove	3	H		Result	1.3	Result Sample Fraction		0 Add/Edit

Import File

A	B	C	D	E	F	G	H
				Characteristic ->	Temperature	DO	pH
				Units ->	Deg C	mg/l	none
Activity ID	Date	Location ID	Result Depth (m)	Fraction ->		Dissolved	
A-1	5/4/2013	ML-1	1		-0.1	2.5	8.1
A-1	5/4/2013	ML-1	3			2.4	8.34
A-2	5/5/2013	ML-2	1		9.8	8.8	8.8
A-2	5/5/2013	ML-2	3		7	9.2	8.5
A-3	5/6/2013	ML-3	1		2.3	2.9	9.1
A-3	5/6/2013	ML-3	3		2.9	1.9	8.55

As a final step, create Generated Values for elements that are not included in our import file, such as the following example:

Generated Values (not in your import file):

Pick	Entity	Entity #	Element	Default Value	Format
	Organization	All	Organization ID	WQXTEST	
	Result	All	Result Status ID	Final	
	Result	All	Result Value Type	Actual	
	Activity	All	Activity Media Name	Water	
	Activity	All	Activity Type	Field Msr/Obs	
	Activity Project	All	Project ID	1	

Our import configuration is now complete. If our file was imported, the following entities and elements would be populated in WQX.

Activity					Activity Project	Result							
Activity ID	Activity Start Date	Monitoring Location ID	Activity Media Name	Activity Type	Project ID	Result Depth / Height Measure	Result Depth / Height Unit	Characteristic Name	Result Unit	Result Sample Fraction	Result Value	Result Status	
A-1	5/4/2013	ML-1	Water	Field Msr/Obs	1	1	m	Temperature	Deg C		-0.1	Final	
						1	m	DO	mg/l	Dissolved	2.5	Final	
						1	m	pH	none		8.1	Final	
						3	m	DO	mg/l	Dissolved	2.4	Final	
						3	m	pH	none		8.34	Final	
A-2	5/5/2013	ML-2	Water	Field Msr/Obs	1	1	m	Temperature	Deg C		9.8	Final	
						1	m	DO	mg/l	Dissolved	8.8	Final	
						1	m	pH	none		8.8	Final	
						3	m	Temperature	Deg C		7	Final	
						3	m	DO	mg/l	Dissolved	9.2	Final	
						3	m	pH	none		8.5	Final	
A-3	5/6/2013	ML-3	Water	Field Msr/Obs	1	1	m	Temperature	Deg C		2.3	Final	
						1	m	DO	mg/l	Dissolved	2.9	Final	
						1	m	pH	none		9.1	Final	
						3	m	Temperature	Deg C		2.9	Final	
						3	m	DO	mg/l	Dissolved	1.9	Final	
						3	m	pH	none		8.55	Final	

4.8 Creating an Rapid Data Entry Configuration

AWQMS provides a Rapid Data Entry page that can be customized by a user for hand data entry of their Activities and Results. The Rapid Data Entry page leverages the same Import Configuration Page that is used for import files, but in this context, the import configuration defines:

- the fields that will be displayed on the Rapid Data Entry Page
- default values for certain fields
- drop-down lists of allowed values (populated by translations)
- rows that will be pre-populated in a table of Results at the bottom of the Rapid Entry Page

When an import configuration is created for Activities and Results, a checkbox will be present on the page, allowing the user to indicate that this particular import configuration will be used to define a Rapid Data Entry Page.

Import Configuration Detail

Name:

Description:

Type:

Column Delimiter:

Rapid Entry?

It's helpful to have an understanding of the Rapid Data Entry Page before creating your import configuration. The Rapid Data Entry Page has two main sections (as shown in the image below): Activity and Results (which are rendered as a table).

Activity ID

Monitoring Location ID

Project ID

Activity Start Date

Activity Start Time

Activity Start Time Zone

Activity Type (translation)

Sample Collection Method ID

Sample Collection Equipment Name

Activity Media Name

Activity Depth/Height Measure

Activity Depth/Height Unit

Organization ID

Translate To

Activity Type



Activity

Subject Taxonomic Name (translation)	Biological Intent (translation)	Result Value	Subject Taxonomic Name	Characteristic Name	Translate To			
					Result Unit	Statistical Base Code	Biological Intent	Frequency Class Descriptor
Blue Gill	Deformities	<input type="text"/>	Lepomis macrochirus	Count	count		Frequency Class	Deformities
Blue Gill	Emaciated	<input type="text"/>	Lepomis macrochirus	Count	count		Frequency Class	Emaciated
Blue Gill	Eroded Fins	<input type="text"/>	Lepomis macrochirus	Count	count		Frequency Class	Eroded Fins
Blue Gill	Fungus	<input type="text"/>	Lepomis macrochirus	Count	count		Frequency Class	Fungus
Blue Gill	Hybrid	<input type="text"/>	Lepomis macrochirus	Count	count		Frequency Class	Hybrid
Blue Gill	Lesions	<input type="text"/>	Lepomis macrochirus	Count	count		Frequency Class	Lesions
Blue Gill	Mean Weight	<input type="text"/>	Lepomis macrochirus	Weight	g	Mean	Group Summary	
Blue Gill	Other Anomalies	<input type="text"/>	Lepomis macrochirus	Count	count		Frequency Class	Other



Results

Elements in the import configuration that relate to Activities will show up in the Activity Section and elements that relate to Results will show up as columns in the Results Section.

An element's position in the import configuration will indicate its position on the Rapid Data Entry Page. For example, if Project ID is in position 3 in the import configuration.



Then it will be in position 3 on the Rapid Data Entry Page

Rapid Entry

Activity ID

Monitoring Location ID

Project ID

Likewise, if "Result Value" is the third Result-level element in the import configuration, then it will be displayed in the third column of the Results Table.

Setting a Default Value for an element in the import configuration will result in a default on the field in the Rapid Data Entry page (such as "Project 1" in the example above).

If an element is constrained by a lookup table (e.g. Activity Media Name), then it will be rendered as a drop-down list on the Rapid Data Entry Page.

Activity Media Name

The following rules must be understood and followed in order for your import configuration to work properly with the Rapid Data Entry Page:

- 1) **The configuration must contain a generated element for the Organization ID that has a default value set to something other than "{none}"**. This will enforce that all data entered on the Rapid Data Entry page (using this configuration) will be related to this organization. If you wish to enter data for more than one organization on the Rapid Data Entry page, then you will have to create a copy of the import configuration for each organization.
- 2) **Any column that is mapped to more than one data element must have at least one translation.** The translations will either be used to populate a drop down list or to generate rows in a "Result" table on the Rapid Data Entry page (depending on the context – to be explained later).
 - When a column is mapped to many elements, the first element will be used for the field's label (or the column header – for Result elements) on the Rapid Data Entry page. In order to control which element is first, you should map the column to a single element and save it. After saving, you can map the column to additional elements (whose order is inconsequential).
- 3) **Default values on the import configuration are ignored when a column is mapped to more than one element.** When a column is mapped to more than one element, the defaults are defined on the Translation Page instead of the Import Configuration Page. See the next section (on creating translations) for more information.
- 4) **Any column that maps to either Analytical Method ID or Analytical Method Context must map to both elements.** Analytical method is a special case in the context of a rapid entry configuration. As a result if you plan to include analytical method in the configuration, it must be in a single column that contains a mapping to both analytical method ID and analytical method context.
- 5) **At least one element from a "Result" (e.g. Characteristic Name, Taxonomic Name, etc.) must include translations and at least one of the translations must be checked as a default**

translation. AWQMS uses these translations to generate the rows in the "Results" table (at the bottom of the Rapid Data Entry Page). See the next section for more details.

4.9 Creating Translations for Rapid Data Entry

Translations work differently in the context of the Rapid Data Entry Page than they do with import files. The Rapid Data Entry Page responds to translations in one of two possible ways:

- Translations are rendered as a drop-down list on the Rapid Data Entry Page. This is always the behavior on Activity-level elements. For Result-level elements, the behavior below is also possible.
- Translations are used to generate a row in the Results Table on the Rapid Data Entry Page.

When you create translations for Rapid Entry Configurations, the Translation Page has an additional column called "Default" (or "Defaults").

Translations							
Del	Defaults	Translate From:		Translate To:			
			Biological Intent	Frequency Class Descriptor	Statistical Base Code	Characteristic Name	Result Unit
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Deformities	Frequency Class	Deformities	{None}	Count	count
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Emaciated	Frequency Class	Emaciated	{None}	Count	count
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Eroded Fins	Frequency Class	Eroded Fins	{None}	Count	count
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fungus	Frequency Class	Fungus	{None}	Count	count
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Hybrid	Frequency Class	Hybrid	{None}	Count	count
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lesions	Frequency Class	Lesions	{None}	Count	count
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Mean Weight	Group Summary	{None}	Mean	Weight	g

When translations are on Activity-level elements you may select zero or one default. When they are on Result-level elements you are allowed to select any number of defaults (although, in nearly all cases it's only useful to select zero, one, or all as defaults).

When drop-down lists on the Rapid Data Entry Page are created from translations, the drop-down list will be populated with the "Translate From" values in your translations. The "Translate To" values from your translations will be used when your Activities and Results are saved on the Rapid Data Entry Page. If a default translation is selected on the Translations Page, then the Rapid Data Entry Page will pre-select that value when it creates the drop-down list (for that set of translations).

When a default translation is selected on Result-level elements, it has an expanded role – in addition to what was mentioned above. It also determines the number of rows that will be generated in the Results

Table on the Rapid Data Entry Page. For example: if you created the following five translations, and selected each of them as defaults...

Translate From:				
Defaults		Characteristic Name	Result Sample Fraction	Result Unit
<input checked="" type="checkbox"/>	DO	Dissolved oxygen (DO)	Dissolved	mg/l
<input checked="" type="checkbox"/>	Flow	Flow	{None}	m3/sec
<input checked="" type="checkbox"/>	pH	pH	{None}	None
<input checked="" type="checkbox"/>	Temperature	Temperature, water	{None}	deg C
<input checked="" type="checkbox"/>	Turbidity	Turbidity	{None}	NTU

then the Rapid Data Entry Page will generate five Result rows in the Results table and each row will be pre-populated with one of the defaults above:

Rapid Data Entry

Activity ID

Monitoring Location ID

Project ID

Activity Start Date

Characteristic Name (translation)	Result Value	Result Value Type	Result Status ID
DO	<input type="text"/>	Actual <input type="text"/>	Final <input type="text"/>
Flow	<input type="text"/>	Actual <input type="text"/>	Final <input type="text"/>
Temperature	<input type="text"/>	Actual <input type="text"/>	Final <input type="text"/>
Turbidity	<input type="text"/>	Actual <input type="text"/>	Final <input type="text"/>
pH	<input type="text"/>	Actual <input type="text"/>	Final <input type="text"/>

If all of your translations are selected as defaults (like the example above), then each row on the Rapid Data Entry Page will still be pre-populated with one of the defaults, but a drop-down list will not be created. Since every translation has its own row, there's no longer a need to allow the user to select which one they want.

The example above highlights a standard practice for a Rapid Entry [Import] Configuration. They should generally have at least one column that is mapped to at least one Result-level element, and that column should have many translations on it. Additionally each translation should be selected as a default. This is commonly done with the "Characteristic Name" element (especially for

physical/chemical results). Other elements, like "Subject Taxonomic Name", "Biological Intent", and "Frequency Class Descriptor" are also useful for biological data.

Not only do default translations generate rows on the Rapid Data Entry Page (for Result-level elements), but they have a multiplying affect in cases where you have created default translations on multiple columns in your import configuration. Suppose you created a column in your import configuration and mapped it to "Subject Taxonomic Name" and then created the following three translations (and selected them as defaults):

Defaults	Translate From:	Translate To: Subject Taxonomic Name
<input checked="" type="checkbox"/>	Blue Gill	Lepomis macrochirus
<input checked="" type="checkbox"/>	Brown Trout	Salmo trutta
<input checked="" type="checkbox"/>	Catfish	Siluriformes

Then you mapped another column in your import configuration to "Biological Intent", "Statistical Base Code", "Characteristic Name", and "Result Unit", and added the following two translations (also selected as defaults):

Defaults	Translate From:	Translate To:			
		Biological Intent	Statistical Base Code	Characteristic Name	Result Unit
<input checked="" type="checkbox"/>	Mean Weight	Group Summary	Mean	Weight	g
<input checked="" type="checkbox"/>	Total Count	Population Census	{None}	Count	count

Then, when the Rapid Data Entry Page was created, it would be created with every combination of default translation. So "Blue Gill" would have a row for "Mean Weight" and for "Total Count" (as would "Brown Trout" and "Catfish").

Rapid Data Entry

Activity ID

Monitoring Location ID

Project ID

Activity Start Date 

Subject Taxonomic Name (translation)	Biological Intent (translation)	Result Value	Translate To				
			Subject Taxonomic Name	Characteristic Name	Result Unit	Statistical Base Code	Biological Intent
Blue Gill	Mean Weight	<input type="text"/>	Lepomis macrochirus	Weight	g	Mean	Group Summary
Blue Gill	Total Count	<input type="text"/>	Lepomis macrochirus	Count	count		Population Census
Brown Trout	Mean Weight	<input type="text"/>	Salmo trutta	Weight	g	Mean	Group Summary
Brown Trout	Total Count	<input type="text"/>	Salmo trutta	Count	count		Population Census
Catfish	Mean Weight	<input type="text"/>	Siluriformes	Weight	g	Mean	Group Summary
Catfish	Total Count	<input type="text"/>	Siluriformes	Count	count		Population Census

This powerful behavior of default translations allows you to define every type of result that you may wish to enter and save yourself (and your other users) a great deal of time on data entry. In many cases, the user simply has to enter the "Result Value" on the appropriate row and they are done.

One additional behavior to point out from the examples above: if a column in your import configuration is mapped to multiple elements, and translations are added to those elements, then you can represent several distinct concepts with a single (translated) value. For example: the Results Table (above) displays the "Biological Intent (translation)" column in column 2 of the table. Additionally the page will display the "Translate To" values, in the far right columns of the table, so that the user can see what will actually be saved when the results are saved. For example: "Mean Weight" will cause the saved result to have a "Characteristic Name" of "Weight", a "Result Unit" of "g", a "Statistical Base Code" of "Mean" and a "Biological Intent" of "Group Summary".

5. WORKING WITH INPUT DATASETS

AWQMS has two main categories of datasets: Input and Output. Output datasets represent data that is exported (and in some cases submitted to CDX). These are explained in another section.

Input Datasets are the result of importing your data file, applying defaults and translations (from your import configuration), and correcting validation issues that the system identifies.

Input datasets are temporary and do not represent data that is in the AWQMS Database. Importing, correcting, and deleting datasets has no effect on the data that is in AWQMS.

The data in an input dataset only becomes permanent once it has been migrated successfully (to the AWQMS Database).

You can work with a dataset in AWQMS for a maximum number of days, at which time it will be automatically purged from this system to keep the system from being overloaded with temporary data. The maximum number of days for you to work with your dataset is configurable for each installation of AWQMS.

Once you have migrated your dataset, you can delete it (since it is no longer needed).

5.1 Input Dataset Purpose and Type

Input Dataset Purpose

An input dataset can be created for the purpose of either Adding & Updating data or for Deleting data in AWQMS. Add/Update datasets contain a full set of data and will update records in AWQMS where the ID for the record matches an existing value. If no match is found then the data will be added to AWQMS. "Delete" datasets include just one column which contains the unique ID of the record(s) you wish to delete from AWQMS.

Once a dataset is created in AWQMS, it will be available to anyone with rights to the organization referenced in the import file. Other users will not see it.

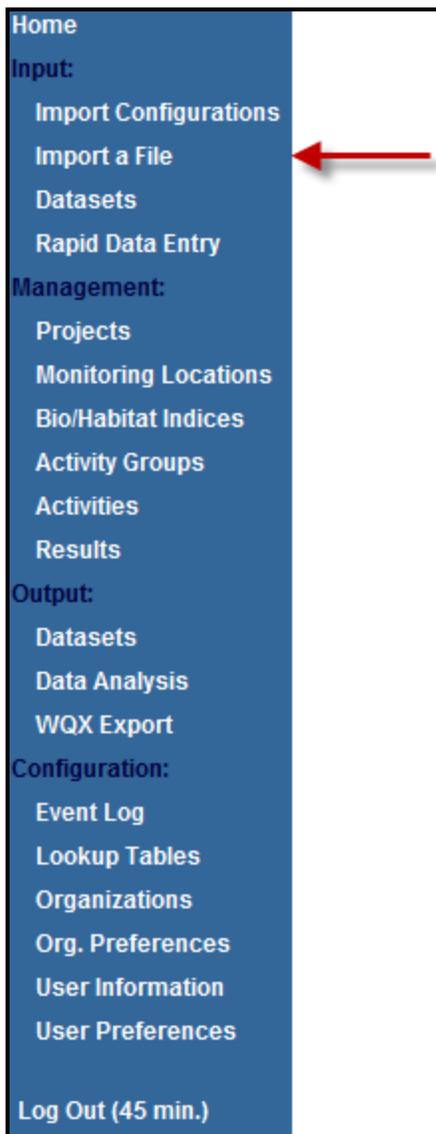
Input Dataset Types

The types of datasets supported by AWQMS are as follows:

- Projects
- Monitoring Locations
- Biological or Habitat Indices
- Activities and Results
- Activities and Metrics
- Activity Groups
- Delete Projects
- Delete Monitoring Locations
- Delete Activities
- Delete Activity Groups
- Delete Biological or Habitat Indices.

5.2 Creating a New Input Dataset

Select the "Import a File" link under the Input section of the navigation panel.



Alternatively, you can review the list of existing input datasets by selecting the Datasets link under the Input section of the navigation panel and the selecting the Add New button at the bottom of the Datasets list page. Either approach navigates to the Create New Dataset page.

On the "Import a File" page, select the method and type of dataset you wish to create (for example, Import a File of Projects).

You are here: [Home](#) >> Create New Dataset

Create New Dataset

To Insert or Update Data:

- [Import a File of Projects](#)
- [Import a File of Monitoring Locations](#)
- [Import a File of Monitoring Location Weights](#)
- [Import a File of Biological or Habitat Indices](#)
- [Import a File of Activities and Results](#)
- [Import a File of Activities and Metrics](#)
- [Import a File of Activity Groups](#)

To Delete Data:

- [Import a File of Project Identifiers to be deleted](#)
- [Import a File of Monitoring Location Identifiers to be deleted](#)
- [Import a File of Activity Identifiers to be deleted](#)
- [Import a File of Activity Group Identifiers to be deleted](#)
- [Import a File of Index Identifiers to be deleted](#)

The system will display the Import File page.

You are here: [Home](#) >> [Create New Dataset](#) >> Import File

Import File

Import Configuration: ▼

Type: Activities and Results

Import File: *.txt, *.csv, *.zip

Attachments File: *.zip

Delimiter: ▼

Ignore First Row of Import File?

Note: If you opted to create one of the "Delete" datasets on the previous page, then the following fields/sections will not be displayed:

Import Configuration drop-down list

Attachments Zip File

Delimiter drop-down list

Default Values section

Select an import configuration from the drop-down list.

Note: The list will be filtered to only show Import Configurations that match the type you selected on the previous page.

You are here: [Home](#) >> [Create New Dataset](#) >> Import File

Import File

Import Configuration:

Type: Activities and Results

Import File: *.txt, *.csv, *.zip

Attachments File: *.zip

Delimiter:

Ignore First Row of Import File?

WQX Element	Default Value	Format
Activity Start Time Zone	MST	
Organization ID	GOLDRYAN	

Use the Browse button on the Import File field to browse and find the file to be imported. You can also type the path and name of the file in the field if you know it.

The file you select must have an extension of "txt", "csv" or "zip" (not case sensitive). If it is a zip file, it must contain a TXT or Comma-Separated Value (CSV) file inside it.

If you have attachments referenced in your import file, then use the Browse button on the Attachments File field to browse and find the zip file that holds all of the attachments. The file must be a .zip file.

If necessary, change the delimiter to match that of your import file. It will default to the delimiter specified in the selected import configuration.

If the first row of your import file has column headings, select the "Ignore First Row of Import File?" check box, so that the first row will not be interpreted as data.

Review the table showing the generated values that will be used when importing this file. The Default Values are from the selected import configuration and can be overridden here for this file (without affecting the values in the import configuration). Change any values as needed.

Select the Continue button.

The system will begin importing the file(s) and validating the imported data. Validation will check for the following types of errors:

- Values that exceed the maximum allowed length
- Values that do not match a related lookup table value
- Values that are not in the correct format
- Values that are missing but are required in WQX.

The system will display the Dataset Summary page. The Dataset Summary page provides information regarding the status of a dataset, including the percent complete and a count of any warnings or errors logged so far. An animated image will spin to remind you that an active process is running on the server.

You are here: [Home](#) >> [Datasets](#) >> Dataset Summary

Dataset Summary

Type: Activities and Results
Import Configuration: [Ryan Demo](#)
Status:  Importing (9% Complete)
[click Refresh Button to update status](#)

Errors & Warnings: 25 / 0 [View Log](#)
Start Time: 12-16-2008 03:36:35 AM
End Time:

During the import process the status will be one of the following:

- **Waiting to Import** – The dataset has been queued for importing but has not yet started. Generally a dataset only has this status for a fraction of a second. In many cases you will not even see this status. However, in some cases when the server is heavily loaded, a dataset may remain in this state for an extended period of time waiting for other datasets to finish processing.
- **Importing** – The dataset is being imported. Percent Complete and a count of Errors & Warnings will be displayed. If you wish to review the errors while the file is being processed, you can select the "View Log" link.

Keep in mind that this page does not continue to show you the updates of the status automatically. You must initiate the process manually (as explained in the next step).

After waiting 10 or 20 seconds, select the Refresh button and check the Status. If it is importing, you will be able to see the percentage complete and start to get a feel for how long it will take to finish importing. You can select the Refresh button periodically to check on its progress again. If it appears that it will take more than a few minutes to complete you can choose to navigate elsewhere in the system and perform other tasks or leave the system entirely and come back at a later time. The process will continue on its own and you can check back at any time by following the instructions in the next section. When the import process completes it will have one of the following statuses:

Imported – The dataset has been imported and validation errors, if any, may be reviewed and resolved. Record counts are displayed.

Cancelled or Failed – Either the import was cancelled (*future feature*) or there were serious errors that prevented the file from being imported.

At this point, the Dataset Summary Page will display additional information about your dataset. See the next section for more information.

Ambient Water Quality Monitoring System

You are here: [Home](#) >> [Datasets](#) >> Dataset Summary

Dataset Summary

Type: Activities and Metrics
Import Configuration: [MarkActivitiesMetricsBottomUpTest](#)
Status: Imported

Datasets are Temporary

Datasets are held in a staging area while you correct any validation errors found during import. You must migrate the dataset to make the data permanent.

The system will delete this dataset if it remains in the staging area more than 180 days.

Import

Errors & Warnings: 39 / 0 [View Log](#)
Start Time: 04-23-2009 02:47:17 PM
End Time: 04-23-2009 02:47:30 PM
File/Transaction ID: MarkActivitiesMetricsBottomUpTest.csv

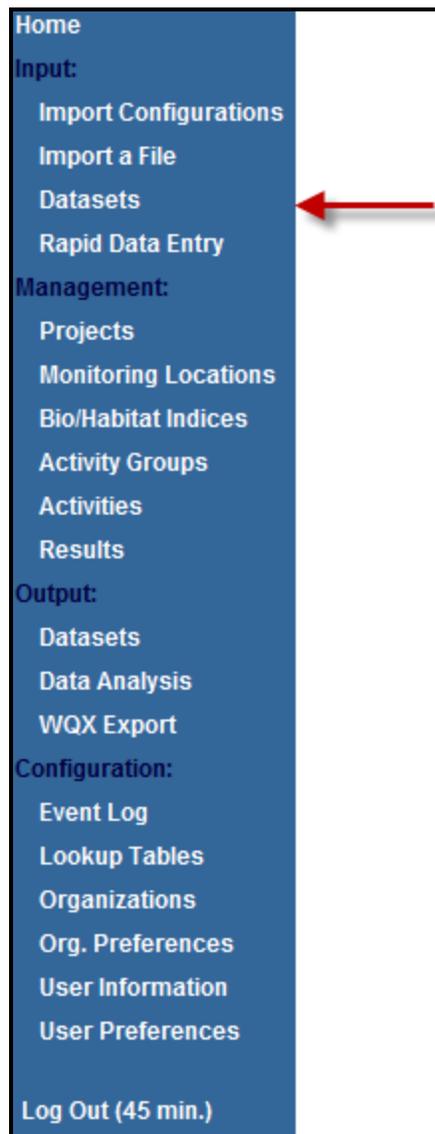
Record Counts	Valid	Invalid	Validation Errors	Original	Remaining
Activity	1	8	Invalid Domain Value	5	5
			Required Value Missing	22	22
			Invalid Format	2	2
			Other (recheck)	10	10

[Return](#) [Refresh](#) [Delete](#) [Migrate](#)

5.3 Continuing with Existing Datasets

To find an existing dataset in the system:

Select the "Datasets" link from the Input section of the navigation panel.



This will navigate to the Datasets list page. The page displays a list of datasets that you have created or were created by users that belong to organizations you have rights to.

You are here: [Home](#) >> Datasets

Datasets

ID	File Name	Type	Status	Created	Created By
1461	Ryan - Demo250.txt	Activities and Results	Imported	12-16-2008 03:36 AM	Ryan Jorgensen
1399	ExportResults11122008.txt	Activities and Results	Imported	12-08-2008 12:57 PM	Kristen Gunthardt
1396	ExportResults11122008.txt	Activities and Results	Completed at CDX	12-08-2008 10:17 AM	Kristen Gunthardt
1371	Level2_WQXWeb_Results.txt	Activities and Results	Failed at CDX	12-04-2008 08:46 AM	Kristen Gunthardt
1367	ExportMonitoringLocations11122008.txt	Monitoring Locations	Completed at CDX	11-26-2008 07:39 AM	Kristen Gunthardt
1366	ExportProjects11122008.txt	Projects	Completed at CDX	11-26-2008 07:35 AM	Kristen Gunthardt
1105	Level2_WQXWeb_Results.txt	Activities and Results	Imported	10-30-2008 09:59 AM	Dwane Young
1084	Level1_WQXWeb_Project.txt	Projects	Completed at CDX	10-30-2008 09:13 AM	Dwane Young
1056	Level1_WQXWeb_Project.txt	Projects	Completed at CDX	10-30-2008 08:25 AM	Kristen Gunthardt
1054	Level1_WQXWeb_Project.txt	Projects	Completed at CDX	10-30-2008 08:24 AM	Kristen Gunthardt

[Return](#) [Add New](#)

Select the link on the ID of the dataset you wish to work with.

The system will display the Dataset Summary page.

Ambient Water Quality Monitoring System
You are here: [Home](#) >> [Datasets](#) >> Dataset Summary

Dataset Summary

Type: Activities and Metrics
Import Configuration: [MarkActivitiesMetricsBottomUpTest](#)
Status: Imported

Datasets are Temporary

Datasets are held in a staging area while you correct any validation errors found during import. You must migrate the dataset to make the data permanent.
The system will delete this dataset if it remains in the staging area more than 180 days.

Import
Errors & Warnings: 39 / 0 [View Log](#)
Start Time: 04-23-2009 02:47:17 PM
End Time: 04-23-2009 02:47:30 PM
File/Transaction ID: MarkActivitiesMetricsBottomUpTest.csv

Record Counts	Valid	Invalid
Activity	1	8

Validation Errors	Original	Remaining
Invalid Domain Value	5	5
Required Value Missing	22	22
Invalid Format	2	2
Other (recheck)	10	10

While the system is importing your file, it tracks errors in two manners:

As each Project, Activity, Result, etc. is processed, the system performs a number of specific validation checks on the data. If the validation fails, the record is flagged as invalid and the specific type of validation failure is recorded. A summary of the validation checks are provided in two tables on the Dataset Summary page (shown above). On the left is a summary of the number of records that are valid or invalid. On the right is a list of each type of validation error and count of the times the error occurred (originally and currently remaining). If there were no validation errors recorded, this table will not display. Each type of validation error has a link to a page where the validation issue can be resolved within the system.

All errors, warnings and messages that the system encounters during the import process will be recorded in a log for this dataset. The "Errors & Warnings" field displays a count of the number of errors and the number of warnings. If either count is greater than zero, a link is provided to view the log. The log will include all of the errors from #1 above and may include additional errors, warnings, etc. that are only tracked here. These include issues with the file not matching the import configuration, problems reading the file, and any other unexpected issue that arose during the import process. In some cases the unexpected issue may be caused by a bug in the system that needs to be resolved. If the system is unable to recover from the error that it has logged, it may stop importing the file and mark the dataset with a status of "Cancelled or Failed Import".

It is particularly important to view the log if it contains warnings or errors that are not included in the table of validation errors (mentioned in #1 above). You can quickly assess this by determining if the number of errors in the log is greater than the number of validation errors in the table. Using the example above we can see that the log contains 190 errors and the validation error table contains 126 + 32 + 32 errors, which also equals 190. In this case we know that the counts are the same, so it is not necessary to view the error log (if you plan to resolve the errors using the resolution pages provided in this system). If you prefer to resolve your errors in your original file (outside of the system) you may still prefer to use the log as the way you determine what needs to be fixed in your file. Although this is less efficient (in most cases), because you have to delete the dataset, correct your file and re-import it, you always have this option for correcting your data.

To View Event Log Messages:

Select the View Log link on the Dataset Summary Page. This will display the Event Log Messages page.

You are here: [Home](#) >> [Event Log](#) >> Event Log Messages

Event Log Messages

Details Summary Errors Only

ID	Type	Message	Context
277323	Error	Value has exceeded its maximum length: 'A234567890123456789012345678901234567890'	Row 2
277324	Error	Invalid value '0010(BT)' for Result Analytical Method ID	Row 2
277325	Error	Invalid value '00-04' for Result Analytical Method ID	Row 3
277326	Error	Value does not match its required format: '6/32/1999'	Row 5
277327	Error	Invalid value '00-04' for Result Analytical Method ID	Row 5
277328	Error	Value does not match its required format: '8/8//1999'	Row 8
277329	Error	Value has exceeded its maximum length: 'A234567890123456789012345678901234567890'	Row 8
277330	Error	Invalid value '0010(BT)' for Result Analytical Method ID	Row 8
277331	Error	Invalid value '0010(BT)' for Result Analytical Method ID	Row 10
277332	Error	Invalid value '00-04' for Result Analytical Method ID	Row 11
277333	Error	Invalid value '00-04' for Result Analytical Method ID	Row 13
277334	Error	Invalid value '0010(BT)' for Result Analytical Method ID	Row 16

[First](#) [Previous](#) [Next](#) [Last](#)

[Return](#)

You can select the Summary radio button at the top of the page to get a summary of each error or warning (and the number of times it occurred). This is a quick way to assess the specific issues that need to be resolved.

You are here: [Home](#) >> [Event Log](#) >> Event Log Messages

Event Log Messages

Details Summary Errors Only

Type	Message	Count
Error	Invalid value '00-04' for Result Analytical Method ID	63
Error	Invalid value '0010(BT)' for Result Analytical Method ID	63
Error	Value does not match its required format: '6/32/1999'	16
Error	Value does not match its required format: '8/8//1999'	16
Error	Value has exceeded its maximum length: 'A234567890123456789012345678901234567890'	32

[Return](#)

Check the "Errors Only" check box if you want to hide warnings.

Select the Return button to navigate back to the Dataset Summary page.

5.4 Resolving Validation Errors in a Dataset

As mentioned previously, the import process performs validation checks on the data in your import file. A summary of the findings are displayed in a "Validation Errors" table on the Dataset Summary Page.

Validation Errors	Original	Remaining
Invalid Domain Value	8	8
Invalid Format	9	9
Max Length Exceeded	2	2
Required Value Missing	12	12

Each type of validation error has a link to a page where the validation issue can be resolved within the system. You should resolve these validation errors prior to exporting and submitting the data to CDX. If you choose to export without resolving all of the validation errors, any invalid records will be excluded from the export.

There are four types of validation errors that can be corrected in the system:

Maximum Length Exceeded – The length of a value in the import file exceeded the maximum allowable length of the corresponding data element.

Invalid Domain Value – A value in the import file didn't match any of the allowed values in the lookup table for the corresponding data element.

Invalid Format – The format of a value in the import file didn't match the format you specified in your import configuration for the corresponding data element.

Required Value Missing – The import file was missing a value that is required to create a valid WQX Submission File.

There are additional validation errors that currently do not have a resolution page. For these types of failures, you will have to make the correction manually in your import file (or the system that produced it) and re-import your file.

Invalid Translation – a value in your import file did not match a translation in the import configuration and the import column is mapped to multiple data elements. There is at least one translation and no defaults in the import configuration. In this situation, a translation is required for every value in that column of your import file. See the section titled *Using Translations to Populate Many Related Data Elements* for more details

Other [Business Rule Failures] – AWQMS validates all WQX Business Rules and logs the errors in the Event Log. Additionally, each record that fails this comprehensive check shows up in the Validation Errors table as "Other". AWQMS version 1.0 does not provide a specific page to view or correct these validation errors, so you will have to rely on the Event Log for details about them. Resolving one of the four types of validation issues listed previously (for which there is a specific resolution page) can also resolve some of the "Other" validation errors. Therefore, a "recheck" link is provided to revalidate the data and recount the number of "Other" errors.

Validation Errors	Original	Remaining
Invalid Domain Value	5	5
Required Value Missing	22	22
Invalid Format	2	2
Other (recheck)	10	10

5.4.1 Resolving Invalid Domain Values

To resolve domain value errors:

Select the “Invalid Domain Value” link in the Validation Errors table on the Dataset Summary page. The system will display the Domain Resolution page.

You are here: [Home](#) >> [Datasets](#) >> [Dataset Summary](#) >> Domain Resolution

Domain Resolution

This page lists values from your import file that do not match a valid domain value. To correct a value, click its link and select a valid value from the list. Then change the resolution for each row (as needed) and save your changes.

Show:

Count	Element	Value	Resolution
3	Characteristic Name	Potasium	<input type="button" value="Add a translation to the Import Configuration"/>
4	Result Analytical Method ID	00-01	<input type="button" value="Modify value manually"/>
1	Sample Collection Equipment Name	Plastic Bag	<input type="button" value="Add a translation to the Import Configuration"/>

This page allows you to resolve errors where the value in your import file did not match an allowed value for that data element.

Count – This column displays the number of times the error occurred (in a particular import column position).

Element – This column displays the name of the data element that was used for validation.

Value – This column displays the current value for the data element. Before the value is corrected, this displays the value from your import file. After it's been corrected, it displays the corrected value.

Resolution – This column displays a drop-down list allowing you to select the method of resolving the validation error:

- *Add a translation to the Import Configuration*: selecting this will create a translation in your Import Configuration so that any future file having the same value (in the same column) will be corrected automatically.
- *Modify value manually*: selecting this will update the value(s) in this dataset, but will not create a translation in your Import Configuration.

Note: there is a preference on the User Preference Page where you can set the default value for the Resolution drop-down list, so that you only have to change the selection when it doesn't match your standard choice for Resolution.

Select the link in the Value column for the value you wish to change. A list of allowed values will be displayed.

SAMPLE COLLECTION EQUIPMENT		
Cancel		
	Name	Type
Select	{none}	
Select	A-Frame Net	Net/Non-Tow
Select	Activity Trap	Trap/Substrate
Select	Anchor Box Dredge	Benthic Dredge
Select	Artificial Substrate	Trap/Substrate
Select	Backpack Electroshock	Electroshock
Select	Beach Seine Net	Net/Non-Tow
Select	Beam Trawl	Net/Horizontal Tow
Select	Benthic Corer (Other)	Benthic Corer
Select	Benthic Dredge (Other)	Benthic Dredge
Select	Benthic Grab (Other)	Benthic Grab
Select	Birge Closing Net	Net/Vertical Tow
Select	Black Light Trap	Trap/Substrate

Choose the Select link for the value you wish to select. The new value will be displayed on the Resolution Page.

Note that although "{none}" is a standard choice in the list of values, this page will not allow a value of "{none}"

If the Resolution drop-down list is not set to the value you want, change it.

Repeat steps 3 & 4 for each row.

Select the Save button to save your changes and refresh the page (showing the remaining unresolved rows). This is particularly useful if there is more than one page of errors. Otherwise you can select the Return button to save your changes and return to the Dataset Summary page.

The dataset summary page will recalculate the unresolved validation errors and invalid records and display the new counts.

Validation Errors	Original	Remaining
Invalid Domain Value	8	0
Invalid Format	9	9
Max Length Exceeded	2	2
Required Value Missing	12	12

5.4.2 Resolving Invalid Formats

To resolve format errors:

Select the "Invalid Format" link in the Validation Errors table on the Dataset Summary page. The system will display the Format Resolution page.

You are here: [Home](#) >> [Datasets](#) >> [Dataset Summary](#) >> [Format Resolution](#)

Format Resolution

This page lists values from your import file that did not match the format specified in the import configuration. Edit each value to match the format and then save your changes.

Show:

Count	Element	Value	Format
1	Activity Latitude	<input type="text" value="129.99"/>	-DD.DDDDDDDDDD
1	Activity Longitude	<input type="text" value="-180.99"/>	-DDD.DDDDDDDDDD
1	Activity Start Date	<input type="text" value="6/32/1999"/>	MM/DD/YYYY
1	Activity Start Date	<input type="text" value="8/8//1999"/>	MM/DD/YYYY
1	Activity Start Time	<input type="text" value="16:99"/>	HH24:MI
1	Laboratory Accreditation Indicator	<input type="text" value="0"/>	Yes/No
1	Laboratory Accreditation Indicator	<input type="text" value="1"/>	Yes/No
1	Laboratory Accreditation Indicator	<input type="text" value="FALSE"/>	Yes/No
1	Laboratory Accreditation Indicator	<input type="text" value="TRUE"/>	Yes/No

This page allows you to resolve errors where the value in your import file did not match the format you specified in your import configuration.

Count – This column displays the number of times the error occurred (in a particular import column position).

Element – This column displays the name of the data element that was used for validation.

Value – This column displays the current value for the data element. Before the value is corrected, this displays the value from your import file. After it's been corrected, it displays the corrected value.

Format – This column displays the format (from your import configuration) that the value must match.

Update the value in the Value column to match the required format.

Repeat step 2 for each row.

Select the Save button to save your changes and refresh the page (showing the remaining unresolved rows). This is particularly useful if there is more than one page of errors. Otherwise you can select the Return button to save your changes and return to the Dataset Summary page.

The dataset summary page will recalculate the unresolved validation errors and invalid records and display the new counts.

Validation Errors	Original	Remaining
Invalid Domain Value	8	0
Invalid Format	9	0
Max Length Exceeded	2	2
Required Value Missing	12	12

5.4.3 Resolving Values that Exceed Maximum Length

To resolve maximum length errors:

Select the “Max Length Exceeded” link in the Validation Errors table on the Dataset Summary page. The system will display the Maximum Length Resolution page.

Count	Element	Max Length	Value	Resolution
2	Monitoring Location ID	35	A234567890123456789012345678901234567890	Modify value manually

This page allows you to resolve errors where the value in your import file exceeded the maximum length allowed for a data element.

Count – This column displays the number of times the error occurred (in a particular import column position).

Element – This column displays the name of the data element that was used for validation.

Max Length – This column display the maximum length for the data element

Value – This column displays the current value for the data element. Before the value is corrected, this displays the value from your import file. After it's been corrected, it displays the corrected value.

Resolution – This column displays a drop-down list allowing you to select the method of resolving the validation error:

- Truncate value to fit: selecting this will tell the system to automatically trim off any excess characters from the value so that it will fit within the allowed size. No change to the value is needed. If you change the value manually to fit within the allowed size, this instruction will be ignored and your new value will be used.
- Modify value manually: selecting this will tell the system that you will update the value manually by changing the value to something that fits within its allowed size.

Note: There is a preference on the User Preference Page where you can set the default value for the Resolution drop-down list, so that you only have to change the selection when it doesn't match your standard choice for Resolution.

If the Resolution drop-down list is not set to the value you want, change it.

Update any rows (where the resolution selected is "Modify value manually"). Otherwise, you can leave the values unchanged.

Select the Save button to save your changes and refresh the page (showing the remaining unresolved rows). This is particularly useful if there is more than one page of errors. Otherwise you can select the Return button to save your changes and return to the Dataset Summary page.

The dataset summary page will recalculate the unresolved validation errors and invalid records and display the new counts (Fig 56).

Validation Errors	Original	Remaining
Invalid Domain Value	8	0
Invalid Format	9	0
Max Length Exceeded	2	0
Required Value Missing	12	12

5.4.4 Resolving Required Values that are Missing

To resolve required value errors:

Select the Required Value Missing link in the Validation Errors table on the Dataset Summary page. The system will display the Required Resolution page.

You are here: [Home](#) >> [Datasets](#) >> [Dataset Summary](#) >> Required Resolution

Required Resolution

This page lists required values that were not provided in your import file. Provide a value for each one and then save your changes.

Show:

Row	Element	Value	Activity ID	Activity Type	Activity Media Name	Activity Media Subdivision Name	Activity Start Date	Activity Start Time	Project ID	Project ID	Monitoring Location ID	Result Analytical Method ID	Result Analytical Method Context	Characteristic Name	Result Measure	Result Unit	Result Value Type
7	Activity Longitude (-DD.DDDDDDDDDDD)	<input type="text"/>	A3	Field Msr/Obs	Water	Surface Water	1999-07-07	14:32:00	Project 2	Project 1	Monitoring Location 3	377.1	USEPA	Potassium bisulfate	1	ml	Actual
7	Sample Collection Equipment Name	{None}	A3	Field Msr/Obs	Water	Surface Water	1999-07-07	14:32:00	Project 2	Project 1	Monitoring Location 3	377.1	USEPA	Potassium bisulfate	1	ml	Actual
8	Activity Longitude (-DD.DDDDDDDDDDD)	<input type="text"/>	A4	Sample-Routine	Water	Stormwater	8/8//1999	14:32:00	My Main Project		help	AM1	WQXTEST	Dissolved oxygen (DO)	223	in3	Calculated
8	Activity Latitude (-DD.DDDDDDDDDDD)	<input type="text"/>	A4	Sample-Routine	Water	Stormwater	8/8//1999	14:32:00	My Main Project		help	AM1	WQXTEST	Dissolved oxygen (DO)	223	in3	Calculated
12	Activity Longitude (-DD.DDDDDDDDDDD)	<input type="text"/>	A5	Sample-Routine	Water	Groundwater	1999-09-09	16:49:00	My Main Project		Monitoring Location 2	377.1	USEPA	Potassium bisulfate	1.232	ml	Actual
12	Activity Latitude (-DD.DDDDDDDDDDD)	<input type="text"/>	A5	Sample-Routine	Water	Groundwater	1999-09-09	16:49:00	My Main Project		Monitoring Location 2	377.1	USEPA	Potassium bisulfate	1.232	ml	Actual
14	Activity Latitude (-DD.DDDDDDDDDDD)	<input type="text"/>	A6	Field Msr/Obs	Water	Surface Water	1999-10-10	20:00:00	Project 1	Project 2	Monitoring Location 3	377.1	USEPA	5-Nitrovanillin	45	in3	Estimated
14	Activity Longitude (-DD.DDDDDDDDDDD)	<input type="text"/>	A6	Field Msr/Obs	Water	Surface Water	1999-10-10	20:00:00	Project 1	Project 2	Monitoring Location 3	377.1	USEPA	5-Nitrovanillin	45	in3	Estimated
15	Activity Longitude (-DD.DDDDDDDDDDD)	<input type="text"/>	A7	Field Msr/Obs	Water	Stormwater	1999-11-11	21:03:00	Project 1	Project 2	Monitoring Location 3	377.1	USEPA	Potassium bisulfate	1	ml	Actual
15	Activity Latitude (-DD.DDDDDDDDDDD)	<input type="text"/>	A7	Field Msr/Obs	Water	Stormwater	1999-11-11	21:03:00	Project 1	Project 2	Monitoring Location 3	377.1	USEPA	Potassium bisulfate	1	ml	Actual
16	Activity Longitude (-DD.DDDDDDDDDDD)	<input type="text"/>	A8	Sample-Routine	Water	Groundwater	1999-12-12	22:52:00	My Main Project	Project 2	Monitoring Location 2	AM1	WQXTEST	Pyrazon	223	in3	Calculated
16	Activity Latitude (-DD.DDDDDDDDDDD)	<input type="text"/>	A8	Sample-Routine	Water	Groundwater	1999-12-12	22:52:00	My Main Project	Project 2	Monitoring Location 2	AM1	WQXTEST	Pyrazon	223	in3	Calculated

This page allows you to provide a value for a data element that was not provided in the import file but is required to create a valid WQX Submission File. Unlike the other resolution pages that group related changes together to save you time, this page requires that you address each missing value individually.

Row – This column displays the row where the missing value originated.

Element – This column displays the name of the data element that is missing a required value.

Value – This column displays the current value for the data element. Before the value is corrected, this will display {none} or an empty text box. After it's been corrected, it displays the corrected value.

Other element value columns – The rest of the columns are there to provide you with sufficient context information so that you can assess what the missing value should be. These columns display the current values for data elements that came from the same row of the import file.

Update the value in the Value column to be an appropriate value (based on the context information provided). If the value is constrained by a list of values, select the {none} link to display and select the desired value.

Repeat step 2 for each row.

Select the Save button to save your changes and refresh the page (showing the remaining unresolved rows). This is particularly useful if there is more than one page of errors. Otherwise you can select the Return button to save your changes and return to the Dataset Summary page.

The dataset summary page will recalculate the unresolved validation errors and invalid records and display the new counts.

Validation Errors	Original	Remaining
Invalid Domain Value	8	0
Invalid Format	9	0
Max Length Exceeded	2	0
Required Value Missing	12	0

5.5 Migrating an Input Dataset

Before you can begin managing, analyzing, or exporting data from an input dataset, the data must first be migrated into the AWQMS Database. Although the system doesn't enforce this, it is a good idea to have all import and other validation errors resolved prior to migrating a dataset. When you are ready to migrate the dataset, simply select the Migrate button on the dataset summary page. The page will refresh and tell you that the dataset is migrating. In order to see the progress of the migration you must select the Refresh button on the page every so often. If you know that the size of the dataset is relatively small, you should be able to refresh the page within a few seconds of initiating the migration. However, if you know that the size of the dataset is relatively large, then you can navigate away from the Dataset Summary page and continue working elsewhere in the system. Return to the Dataset Summary (via the Dataset List page) at any time to check on the status of your migration.

When migrating a dataset of Activities and Metrics, you can have the system automatically calculate certain types of Index scores that are simple sums or averages of the Metric scores associated with your Activities. To make this happen, check the box that says "After migrating these metrics, generate the following indices...". Then select the Index Type(s) to be generated from the multi-select list provided (Ctrl+Click to select multiple Index Types) .

Dataset Summary

Type: Activities and Metrics
 Import Configuration: [Metrics Demo](#)
 Status: Imported

Datasets are Temporary

Datasets are held in a staging area while you correct any validation errors found during import. You must migrate the dataset to make the data permanent.

The system will delete this dataset if it remains in the staging area more than 120 days.

Import

Error/Warning/Message: 16 / 0 / 7 [View Log](#)
 Start Time: 06-11-2012 11:29:00 AM
 End Time: 06-11-2012 11:29:04 AM
 File/Transaction ID: Ryan - Metrics Demo.csv

Record Counts	Valid	Invalid	Validation Errors	Total	Unresolved
Activity	8	0	Invalid Domain Value	8	0
Activity Metric	32	0	Other	8	0

After migrating these metrics, generate the following indices (for each distinct activity/activity date):

Index Type: IT1 IT2

Group By:

Once the migration has completed the status of the dataset will be “Migrated”. You can delete your dataset at that point, as a copy of the data from the dataset will now be in the database.

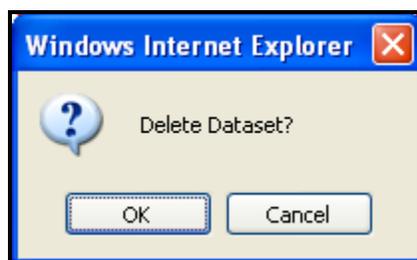
5.6 Deleting an Input Dataset

Input Datasets in AWQMS are temporary and only become final after they have been migrated to the database. You are encouraged to delete your datasets once they have received a status of “Migrated” or you are no longer working with them. Deleting a dataset will have no effect on data that has been migrated. You are only deleting the temporary data that was in the staging area.

To keep the system clean, datasets that reach a certain age will be automatically removed from the system. The dataset summary page will tell you how many days are remaining before the dataset will be automatically deleted.

To delete a dataset manually, select the Delete button on the Dataset Summary Page.

You will be asked to confirm before the dataset is actually deleted.

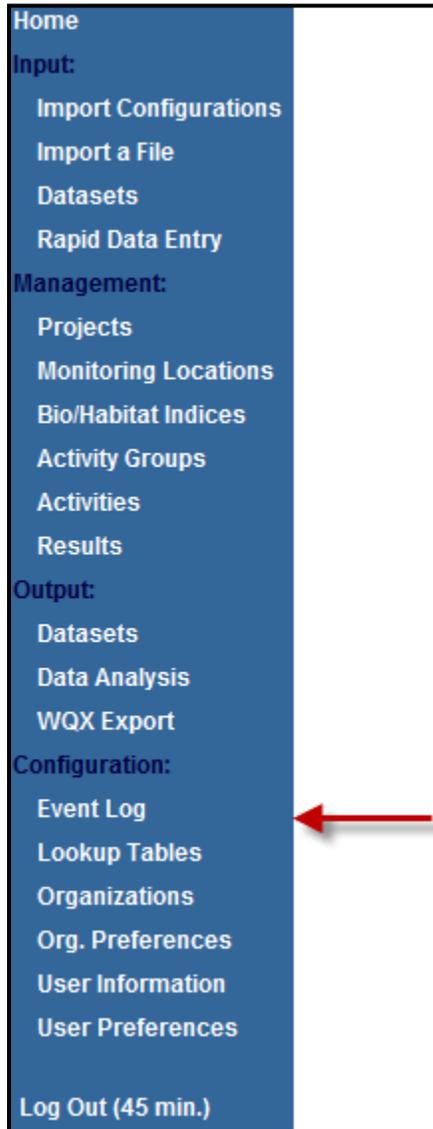


Click OK to proceed with the deletion. Depending on the number of records in the dataset and the interconnections between records, the delete could take from a few seconds up to two or three minutes; maybe even more for extremely large data sets. While waiting for a dataset to be deleted, there is no

“Refresh” button. You must wait until the processing is complete. When the dataset has been deleted, you will be returned to the Dataset List page.

6. VIEWING THE EVENT LOG

Select the Event Log link under the Configuration section of the navigation panel to view the Event Log.



You are here: [Home](#) >> Event Log

Event Log

Show Events Created By: ▼

ID	Start Time	Type	Messages
7900	12-16-2008 11:45:20 PM	Application Error	1 View
7899	12-16-2008 11:45:20 PM	Application Error	1 View
7898	12-16-2008 11:00:21 PM	Export	0
7897	12-16-2008 10:59:04 PM	Export	0
7896	12-16-2008 10:49:00 PM	Export	0
7895	12-16-2008 10:47:59 PM	Export	0
7894	12-16-2008 10:46:13 PM	Export	0
7893	12-16-2008 10:45:52 PM	Application Error	1 View
7891	12-16-2008 05:35:31 PM	Import	31 View
7837	12-16-2008 11:32:05 AM	Import	139 View
7836	12-16-2008 11:27:23 AM	Import	276 View
7832	12-16-2008 11:21:27 AM	Import	139 View

Page 1 of 70

The filter for the event log will automatically be set to show events for the current user.

Pick a different user from the drop-down list titled "Show Events Created By:" to change the filter to another user. The drop-down list only includes users that belong to the same organizations that you belong to. If you are a system administrator you can also view system events by picking "System" from the drop-down list.

To view individual event log messages use the following steps.

Select the "View" link in the Message column. This will display the Event Log Messages page.

You are here: [Home](#) >> [Event Log](#) >> Event Log Messages

Event Log Messages

Details
 Summary
 Errors Only

ID	Type	Message	Context
277323	Error	Value has exceeded its maximum length: 'A234567890123456789012345678901234567890'	Row 2
277324	Error	Invalid value '0010(BT)' for Result Analytical Method ID	Row 2
277325	Error	Invalid value '00-04' for Result Analytical Method ID	Row 3
277326	Error	Value does not match its required format: '6/32/1999'	Row 5
277327	Error	Invalid value '00-04' for Result Analytical Method ID	Row 5
277328	Error	Value does not match its required format: '8/8//1999'	Row 8
277329	Error	Value has exceeded its maximum length: 'A234567890123456789012345678901234567890'	Row 8
277330	Error	Invalid value '0010(BT)' for Result Analytical Method ID	Row 8
277331	Error	Invalid value '0010(BT)' for Result Analytical Method ID	Row 10
277332	Error	Invalid value '00-04' for Result Analytical Method ID	Row 11
277333	Error	Invalid value '00-04' for Result Analytical Method ID	Row 13
277334	Error	Invalid value '0010(BT)' for Result Analytical Method ID	Row 16

You can select the Summary radio button at the top of the page to get a summary of each error or warning (and the number of times it occurred).

You are here: [Home](#) >> [Event Log](#) >> Event Log Messages

Event Log Messages

Details
 Summary
 Errors Only

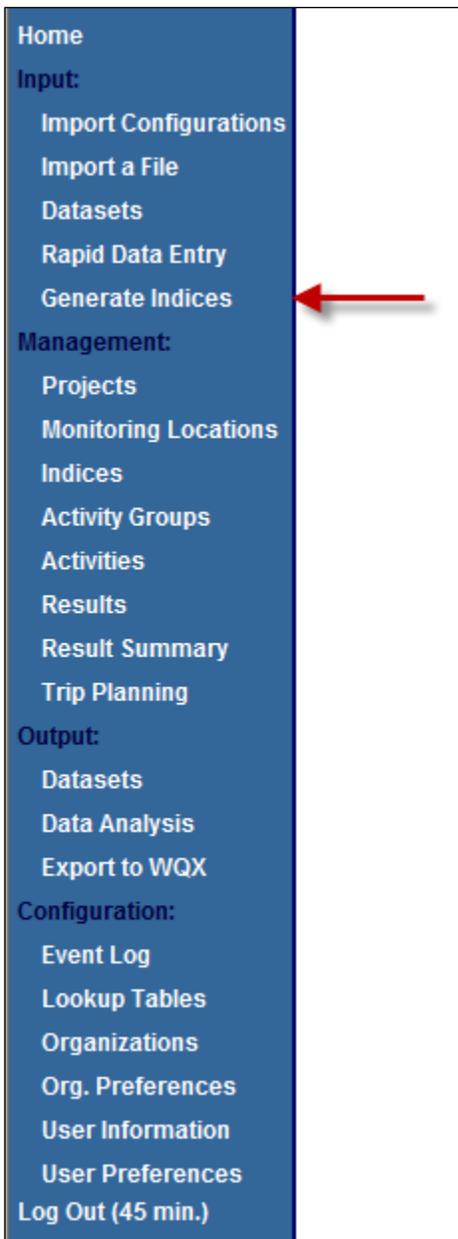
Type	Message	Count
Error	Invalid value '00-04' for Result Analytical Method ID	63
Error	Invalid value '0010(BT)' for Result Analytical Method ID	63
Error	Value does not match its required format: '6/32/1999'	16
Error	Value does not match its required format: '8/8//1999'	16
Error	Value has exceeded its maximum length: 'A234567890123456789012345678901234567890'	32

Select the Errors Only check box if you want to only view errors (and hide warnings and messages)

7. GENERATING INDEX SCORES IN AWQMS

AWQMS has the capability to generate biological and habitat index scores that are simple sums or averages of existing Metric scores. The Index Types to be generated must first be configured and must be associated with the Metric Types that are summed or averaged in calculating the Index score. The configuration of the Index Types takes place in the AWQMS lookup tables.

Generation of Index scores can occur at the time imported Metric scores are migrated into the AWQMS Database and also can be triggered as needed in the page. *For more information on how to trigger generation of Index scores at the time data is being imported, please see section 5.5.* To trigger Index score generation as needed, use the “Generate Indices” link in the navigation menu.



The Generate Indices page will be displayed. The page functions as a “wizard” that guides you step-by-step through the process of generating the Index scores. As you complete each step you click the “Next” link to proceed to the next step. The fourth step provides a button to trigger the generation of the scores based on the decisions made during each of the steps.

Generate Indices

Introduction: This page is used to calculate and save index scores based on metric scores that have already been loaded into the system. Before this page can be used, you must have already set up the relationships between your index types and metric types and indicated the method of calculating the index score. Please refer to the User Guide for more information.

Step 1: Choose the Organization and Type(s) of Indices to calculate

Organization ID:

Index Type(s):

Step 2 (optional): Enter criteria to limit the metrics that will be used (to calculate index scores). For example you may only want those that relate to a specific project or monitoring locations. Or you may only want metrics from within a specific date range. You should also indicate if you want existing indices to be updated if they already exist for a particular location and date.

Update indices if they already exist.

Project ID:

Metric Dates Between: And

	Organization ID	Monitoring Location ID	Monitoring Location Name
remove	GOLDRYAN	ML1	Monitoring Location 1
remove	GOLDRYAN	ML2	Monitoring Location 2
remove	GOLDRYAN	ML3	Monitoring Location 3

Step 3: Indicate how metrics should be grouped for each index score (to be generated). If you know that all the metrics for a particular index fall under a single activity/sample, then select "Activity ID". Otherwise, select "Activity Date" to include all metrics from a particular date (and location) when calculating the index score.

Group By:

Step 4: Generate Index Scores

When you select the "Generate Index Scores" button in step 4, the system attempts to generate appropriate Index scores. When the process completes, the page returns for "step 5" which allows you to optionally view the actions the system has taken in the Event Log by selecting the "View Event Log" link.

Step 4: Generate Index Scores

Step 5 (optional): The system has generated index scores (as requested). Click the link below if you wish to review the log.

[View Event Log](#)

Event Log Messages

Details Summary Errors Only Show Source

ID	Type	Message
26937469	Message	Score for Index ID 1999-05-04~IT1~100132 was changed from 6 to 14
26937470	Message	Score for Index ID 1999-07-04~IT1~100134 was changed from 6 to 6.9
26937471	Message	Score for Index ID 1999-05-04~IT2~100140 was changed from 2 to 4.66666666
26937472	Message	Score for Index ID 1999-07-04~IT2~100142 was changed from 2 to 2.3
26937473	Message	2 indexes were updated for index type: IT1
26937474	Message	2 indexes were updated for index type: IT2

8. MANAGING DATA IN AWQMS

A pair of companion pages exist for each of the main types of data in AWQMS:

- A List Page for searching and identifying data of interest

- Criteria at the top of each page enables you to filter the list

- An "Add New" button allows you to create new records.

- A Detail Page for viewing and editing the specific record selected on the List Page.

Required fields are indicated by an asterisk to the right of the label.

The following sections provide a snapshot of each page with a brief explanation of any features unique to that page.

8.1 Project List Page

A project defines a particular data collection effort and typically includes a Quality Assurance Project Plan (QAPP).

The Project List Page is shown in Figure 64:

You are here: [Home](#) >> [Projects](#)

Projects

Organization ID: Project ID:

Organization	Identifier	Name	Sampling Design Type	Description
TRIBALDEMO	GREEN	Green River	Targeted	Water quality for the Green River
TRIBALDEMO	TR-1033	Terrace River Metals project		Water quality testing of metal levels
TRIBALDEMO	TribalDemo	TribalDemo - 106 Sampling	Targeted	Tribal demo of the 106 basic sampling

[User Guide \(WOQ Web\)](#) | [STORET - WOQ](#) | [STORET User Assistance](#)

If you have specified a default Organization in your User Preferences, then the Organization ID drop down list will be pre-populated with that value.

The Project ID search field supports partial matches, so you can type any part of the Project ID you are searching for.

Select the “Search” button to display the results of your query.

Select a link on the ID column to view the Details Page for this record.

Select the “Add New” button to create a new Project (on the Detail Page).

8.2 Project Detail Page

This page is used to view, edit, add or delete a specific project. Binary Objects may also be attached to a project.

You are here: [Home](#) >> [Projects](#) >> Project Detail

Project Detail

Organization ID:*

Project ID:*

Project Name:*

Project Description:

Sampling Design Type: QAPP Approved

Approval Agency:

Created By: Andy Van den Akker 04-16-2009 02:10:43 PM

Last Modified By: Andy Van den Akker 04-16-2009 02:10:43 PM

Attached Objects: [Add](#)

[User Guide \(WQX Web\)](#) | [STORET - WQX](#) | [STORET User Assistance](#)

The Add Attachment link will allow you to browse to a file on their local machine and upload it to the Project.

The Remove Attachment Link will allow you to remove an attachment from the project. Before an attachment is removed, the system will ask for a confirmation from you.

The system will use Flags “behind the scenes” to track when these items are changed. The flags will be used by the system to ensure that the changes will be included in the next Project Export.

As specified above, the Delete button, when selected, will prompt you for confirmation. Due to the fact that deleting a Project has the potential to cascade deletes to many related records across the system, the prompt will also provide a severe warning and you will have to confirm the delete by actually typing something like "YES" or "DELETE" in a box and then selecting OK. Deleting a project will automatically “cascade” the following deletes:

- Attached Binary Objects
- Activities

Note: Special Logic for Cascading Deletes from Project to Activities: If an activity is related to more than one Project and only one of the Projects it relates to is deleted, the Activity will remain in the system and only the relationship between the deleted Project and the Activity will be deleted. In other words, when an Activity relates to only one Project, it will be deleted when that Project is deleted.

The system will automatically keep an audit history of deleted records including the table and record ID of the record being deleted, the user who deleted the record, and the date and time the deletion took place.

8.2.1 Project Detail Rules

The following elements are required for a Project:

- Project ID
- Project Name
- Project Description

8.3 Monitoring Location List Page

This page is used to view a list of Monitoring Locations that have been entered or imported into the system and will allow you to navigate to or “drill down” to the details for a specific existing Monitoring Location record or to navigate to a blank form for entering a new record for a Monitoring Location that has not yet been captured in the system.

You are here: [Home](#) >> Monitoring Locations

Monitoring Locations

Organization ID: State (for HUC):

Monitoring Location Type: HUC 8:

Monitoring Location ID:

Name:

[Search](#) [Clear](#) [Retrieve From Map](#)

Note: criteria includes boundaries from the map

Organization ID	Monitoring Location ID	Monitoring Location Name	Monitoring Location Type	Latitude	Longitude
TESTMARK	AASHOREHAMB	UNKNOWN	BEACH Program Site-Estuary	39.009388	-76.400080
TESTMARK	AASPS1	Sandy Point State Park South Beach	BEACH Program Site-Estuary	39.010098	-76.398502
TESTMARK	AASPS2	Sandy Point State Park South Beach	BEACH Program Site-Estuary	39.010172	-76.398345
TESTMARK	AASPS3	Sandy Point State Park South Beach	BEACH Program Site-Estuary	39.009388	-76.400085
TESTMARK	QAHARBOR	Beach Harbor Campground	BEACH Program Site-Estuary	38.9581	-76.2106
TESTMARK	QAWRIGHT	Camp Wright	BEACH Program Site-Estuary	38.9806	-76.3147

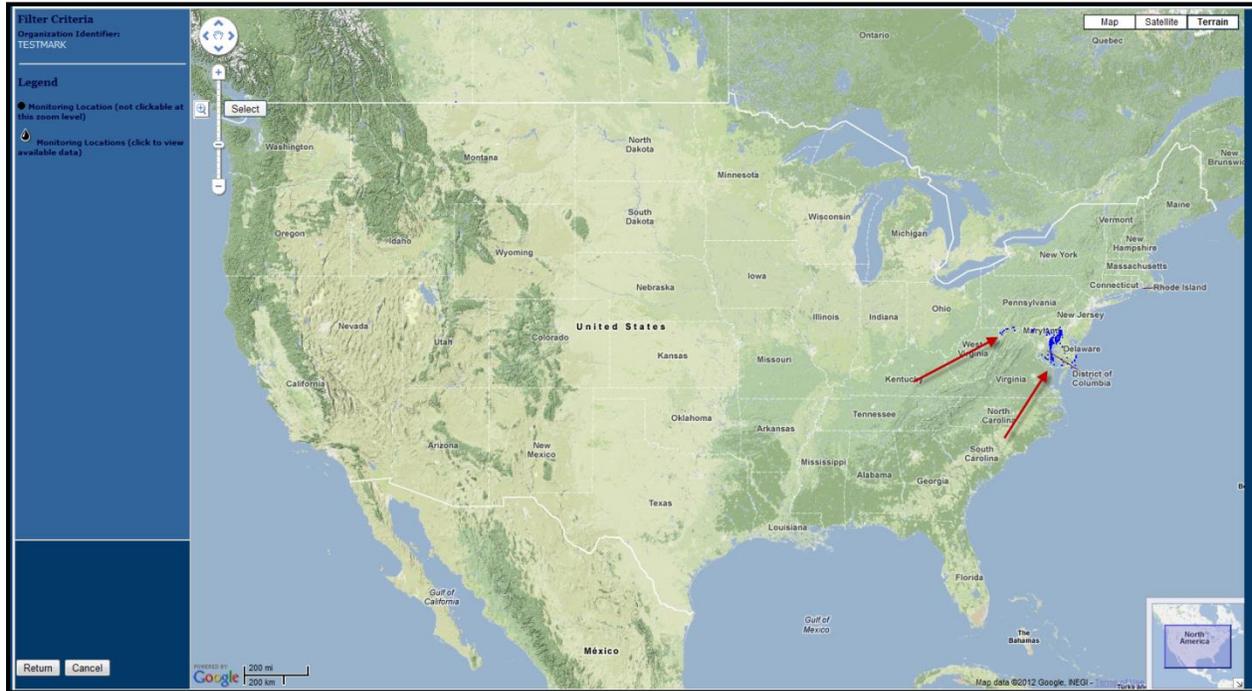
[Return](#) [Add New](#) [Export to Excel](#)

Row 1 - 6 of 6

[AWQMS User Guide](#) | [AWQMS Forums](#) | [STORET - WQX](#)

You can to filter the list using the Organization ID, Monitoring Location Type, Monitoring Location ID, Monitoring Location Name, HUC8 fields, and rectangular map coordinates and subsequently selecting the “Search” button. To use the HUC8 filter, you must first select the State (for HUC) from the drop-down list provided. The list of HUC8 values will be populated with the 8-digit HUCs for the selected state. Now you may select one or more HUCs from the list.

If you have implemented a public login for your AWQMS installation (or if you have paid for a Google Maps API license, you can specify monitoring locations based on rectangular coordinates on a map. Select the Retrieve From Map button and a map will be displayed. The map will display one blue dot for each monitoring location that matches the criteria you have already entered in the criteria fields.



You can pan and zoom to see finer detail using the typical pan and zoom features provided by web-based mapping tools.

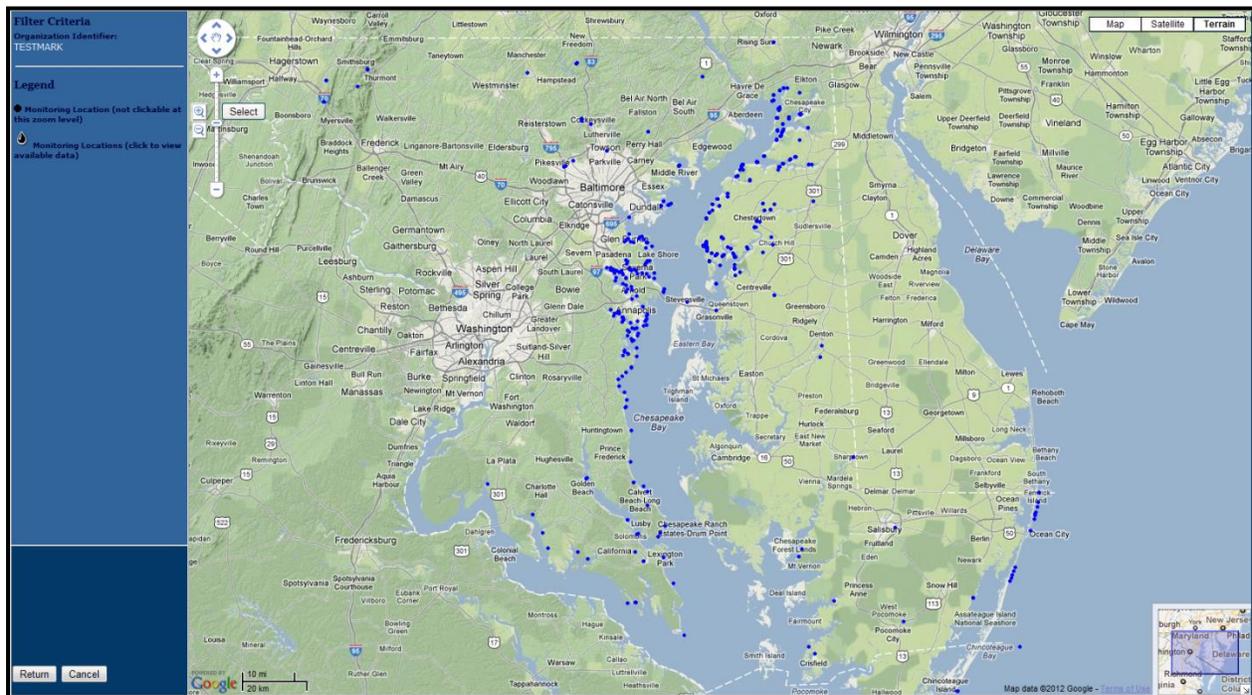
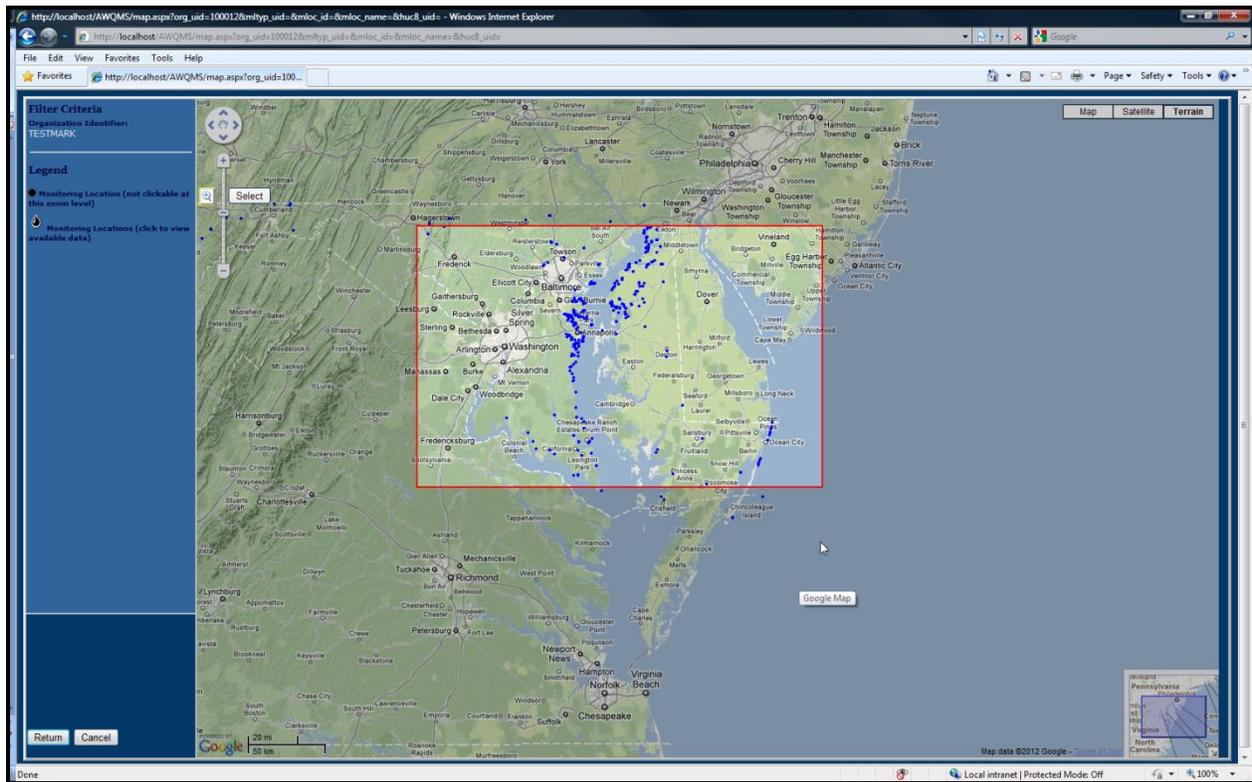


(Pan Tool)



(Zoom Tool)

You can also pan by clicking and dragging to move the map around. You can double-click to zoom in on a point. You can also click the button with the magnifying glass icon on it to turn on click-and-drag zooming; which allows you to draw a rectangle with your mouse and then zoom in on the rectangle when you let up on the mouse-button.



You can visually select one or more monitoring locations by “drawing” a rectangle around the dots representing the locations on the map. You’ll want to zoom in to an appropriate level first in order to be able to clearly distinguish between locations. Sometimes locations are so close together that it is easy to

select more than you intended. You can achieve the finest (zoom) detail using the Map (as Opposed to Satellite or Terrain).

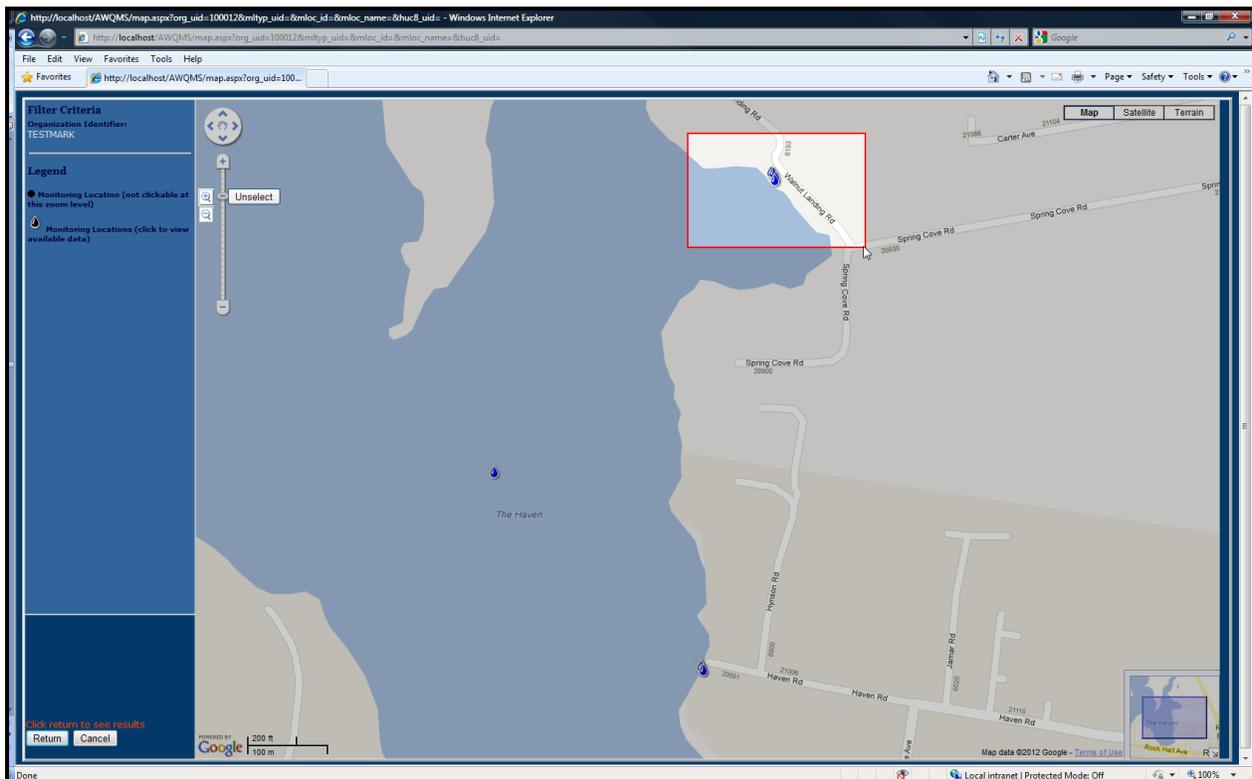


At a certain level of detail, the dots become water droplet icons and you can click on them to view underlying result data from samples taken at the location.

Once you have zoomed to an appropriate level of detail, turn on the visual selection mode using the Select button near the pan and zoom tools.



When you turn on the visual selection mode, the map area will turn a shade darker to indicate that the visual selection mode is turned on. Now click and drag to “draw” a rectangle around the dots representing the monitoring locations you wish to include in your search.



(Drawing a rectangle around 4 locations)

Now select the Return button at the bottom left of the map to return to the Monitoring Locations List page.



When you return to the Monitoring Locations list page, it will automatically refresh and include the geographical boundaries from the rectangle you drew as search criteria and will display any locations that match the criteria in the fields and that fall within the boundaries.

You are here: [Home](#) >> Monitoring Locations

Monitoring Locations

Organization ID: State (for HUC):

Monitoring Location Type: HUC 8:

Monitoring Location ID:

Name:

[Search](#) [Clear](#) [Retrieve From Map](#)

Note: criteria includes boundaries from the map

Organization ID	Monitoring Location ID	Monitoring Location Name	Monitoring Location Type	Latitude	Longitude
TESTMARK	KESPRINGCOVE1	Spring Cove Public Landing	BEACH Program Site-Estuary	39.148390	-76.244970
TESTMARK	KESPRINGCOVE2	Spring Cove Public Landing	BEACH Program Site-Estuary	39.148380	-76.244940
TESTMARK	KESPRINGCOVE3	Spring Cove Public Landing	BEACH Program Site-Estuary	39.148330	-76.2449
TESTMARK	KESPRINGCOVE4	Spring Cove Public Landing	BEACH Program Site-Estuary	39.1483	-76.244910

[Return](#) [Add New](#) [Export to Excel](#)

Row 1 - 4 of 4

[AWQMS User Guide](#) | [AWQMS Forums](#) | [STORET - WQX](#)

Selecting a link in the Monitoring Location ID column will take you to the Monitoring Location Details Page for the specific Monitoring Location selected.

The Clear button allows you to quickly clear out both the search criteria and the list of locations.

The "Add New" button enables you to go to a blank Monitoring Location detail page for data entry.

Note: The monitoring location detail page is used any time a page in AWQMS has need for the user to provide a list of monitoring locations. One example of this is in the Data Analysis Criteria page, where there is a button labeled Select Monitoring Locations. When you select that button in the Data Analysis Criteria page, the system redirects to the Monitoring Locations List page and allows you to perform searches to find and select the locations you wish to use in the Data Analysis Criteria page. When the Monitoring Locations List page is in this "select locations" mode, there are checkboxes displayed that

allow you to indicate which specific locations you wish to include when you return to the Data Analysis Criteria page.

You are here: [Home](#) >> Monitoring Locations

Monitoring Locations

Organization ID: State (for HUC):

Monitoring Location Type: HUC 8:

Monitoring Location ID:

Name:

Note: criteria includes boundaries from the map

Select	Organization ID	Monitoring Location ID	Monitoring Location Name	Monitoring Location Type	Latitude	Longitude
<input type="checkbox"/>	TESTMARK	KESPRINGCOVE1	Spring Cove Public Landing	BEACH Program Site-Estuary	39.148390	-76.244970
<input type="checkbox"/>	TESTMARK	KESPRINGCOVE2	Spring Cove Public Landing	BEACH Program Site-Estuary	39.148380	-76.244940
<input type="checkbox"/>	TESTMARK	KESPRINGCOVE3	Spring Cove Public Landing	BEACH Program Site-Estuary	39.148330	-76.2449
<input type="checkbox"/>	TESTMARK	KESPRINGCOVE4	Spring Cove Public Landing	BEACH Program Site-Estuary	39.1483	-76.244910

Row 1 - 4 of 4

(The Monitoring Locations List page in “Select Locations” mode with checkboxes)

Other pages that leverage the functionality of the Monitoring Locations List page include:

- Activities List Page
- Results List Page
- Trip Planning Page

8.4 Monitoring Location Detail Page

This page is used to view and/or edit a specific Monitoring Location, add/delete Attached Binary Objects to/from a specific Monitoring Location, capture information about a new Monitoring location, or delete an existing Monitoring Location.

Utah Department of Environmental Quality

Ambient Water Quality Monitoring System

Version: 1.00.04.15

You are here: [Home](#) >> [Monitoring Locations](#) >> Monitoring Location Detail

Monitoring Location Detail

Utah Department of Environmental Quality

- Import Configurations
- Create New Dataset
- Datasets
- Lookup Tables
- Event Log
- Organizations
- Projects
- Monitoring Locations
- Activities
- Activity Groups
- Bio/Habitat Indices
- Preferences
- User Information
- Graphs and Reports
- WOX Export

Monitoring Location Identity:

Organization ID:*

Monitoring Location ID:*

Monitoring Location Type:*

Monitoring Location Name:*

Description:

Country:

State:

County:

HUC (8 digit): [{none}](#)

HUC (12 digit): [{none}](#)

Establishment Date:

On Tribal Land

Tribal Land Name:

Township Range:

Geospatial Information:

Latitude:* or Deg., Min., Sec.

Longitude:* or Deg., Min., Sec.

[Map Latitude/Longitude](#)

Horizontal Accuracy: Units:

Horizontal Coordinate System:*

Horizontal Collection Method:*

Source Map Scale: 1:

Vertical Measure: Units:

Vertical Coordinate System:

Vertical Collection Method:

Comments/Notes:

Well Information

Well Type:

Aquifer Name:

Formation Type:

Well Depth: Units:

Alternate IDs: [Add](#)

Attached Objects: [Add](#)

[Winter.jpg](#) [Remove](#)

Created By: 01-01-0001 12:00:00 AM

Last Modified By: 04-07-2009 04:29:32 PM

[User Guide \(WOX Web\)](#) | [STORET - WOX](#) | [STORET User Assistance](#)

All of the fields related to Monitoring Locations are represented on the Monitoring Location Detail page. Required fields are indicated by an Asterisk (*).

The values in the State drop-down list will be based on the selected country.

The values in the County drop-down list will be based on the selected state.

The application computes and displays the degrees, minutes, and seconds (DMS) of latitude longitude from the decimal degrees and vice-versa.

The View Lat/Long Map Service link allows you to view a topographical satellite map of the longitude/latitude coordinates.

As specified above, the Delete button, when selected, will prompt you for confirmation. Due to the fact that deleting a Monitoring Location has the potential to cascade deletes to many related records across the system, the prompt will also provide a severe warning and you will have to confirm the delete by actually typing something like "YES" or "DELETE" in a box and then selecting the OK button. Deleting a Monitoring Location will automatically "cascade" the following deletes:

- Attached Binary Objects
- Activities

Note: Special Logic for Cascading Deletes from Monitoring Locations to Activities: Activities may or may not relate to a Monitoring Location. Therefore, when an Activity relates to a Monitoring Location it will be deleted when its Monitoring Location is deleted. When it does not relate to a Monitoring Location (such as for certain Quality Control Samples) it will be unaffected by any Monitoring Location deletes.

The system will automatically keep an audit history of deleted records including, at a minimum, the table and record ID of the record being deleted, the user who deleted the record, and the date and time the deletion took place.

The screenshot displays a web application interface with the following sections:

- Alternate IDs:** A table with columns "ID" and "Context". Below the table is a "Remove" button.
- Attached Objects:** A section with an "Add" link and a list of objects, including "Winter.jpg" with a "Remove" button.
- Metadata:** Fields for "Created By" (01-01-0001 12:00:00 AM) and "Last Modified By" (04-07-2009 04:29:32 PM).
- Buttons:** "Return", "Save", "Cancel", and "Delete" buttons.
- Footer:** Links for "User Guide (WOX Web)", "STORET - WOX", and "STORET User Assistance".

The page has a sub-section for maintaining a list of alternate identifiers for the monitoring location. You will select the "Add" link to add a new row for capturing an alternate identifier to the list. You will be able to modify the values in the fields for an existing alternate identifier in the list. You will be able to select the "Remove" link to delete the corresponding Alternate Identifiers from the list.

Attached Objects: [Add](#)

[Winter.jpg](#) [Remove](#)

Created By: 01-01-0001 12:00:00 AM

Last Modified By: Andy Van den Akker 04-16-2009 04:40:48 PM

The “Add” link allows you to add a new attachment by browsing to a file on their local machine and upload it to the Monitoring Location.

The “Remove” link next to an attachment will ask for a confirmation and then delete the Attached Binary Object from the Monitoring Location.

The system will use flags behind the scenes to track when these items are changed. The system will use the flags to ensure that the changes will be included in the next Monitoring Location Export.

8.4.1 Monitoring Location Detail Rules

The following rules apply to monitoring locations:

- When Horizontal Collection Method is “Interpolation-Map”, Source Map Scale must be provided.
- When Vertical Measure is provided, the following also must be provided:
 - Vertical Measure's Measure Unit
 - Vertical Collection Method
 - Vertical Coordinate System
- If a County is provided then a State must also be provided.
- The following elements are required for a Monitoring Location:
 - Monitoring Location ID
 - Monitoring Location Name
 - Monitoring Location Type
 - Latitude
 - Longitude
 - Horizontal Collection Method
 - Horizontal Coordinate System
- If an Alternate ID or Context is provided, both must be provided.
- If Horizontal Accuracy or Unit is provided, both must be provided.
- If Vertical Accuracy or Unit is provided, both must be provided.
- If any of the fields in the Well Information section are provided, then Well Type is required.
- If Well Depth or Unit is provided, both must be provided.

8.5 Activities List Page

The Activity page is used to view a list of Activities that have been entered or imported into the system and allows you to navigate or “drill down” to the details for a specific existing Activity record. You will

also be able to navigate to a blank form for entering a new record for an Activity that has not yet been captured in the system.

You are here: [Home](#) >> [Activities](#)

Activities

Organization ID:

Activity ID:

Project ID:

Activity Dates Between:  and: 

Activity Type:

Monitoring Location ID:

Organization ID	Activity ID	Date	Activity Type	Monitoring Location ID	Monitoring Location Name
TRIBALDEMO	ML406042008	06-04-2008	Sample-Routine	ML4	Green River
TRIBALDEMO	ML406042008F	06-04-2008	Field Msr/Obs	ML4	Green River
TRIBALDEMO	ML406212005	06-21-2005	Sample-Routine	ML4	Green River
TRIBALDEMO	ML407122004	07-12-2004	Sample-Routine	ML4	Green River
TRIBALDEMO	ML407122004F	07-12-2004	Field Msr/Obs	ML4	Green River
TRIBALDEMO	ML407192007	07-19-2007	Sample-Routine	ML4	Green River
TRIBALDEMO	ML407202007	07-20-2007	Sample-Routine	ML4	Green River
TRIBALDEMO	ML407262007	07-26-2007	Field Msr/Obs	ML4	Green River
TRIBALDEMO	ML407262007F	07-26-2007	Field Msr/Obs	ML4	Green River

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You are able to filter the list using the Organization ID, Activity ID, Activity Type, Monitoring Location ID, Project ID, and/or Date fields at the top of the page and subsequently selecting the Search button.

Select an Organization ID from the drop-down menu

Enter and other selection criteria to narrow the Activities search

Select the Search button to see the activities

The Add New button allows you to go to a blank Activity Detail page for data entry.

8.6 Activity Detail Page

This page is used to view and/or edit a specific Activity record, view Activity Groups an Activity is in, add/remove Metrics to/from an Activity, add/remove Results to/from an Activity, attach/detach electronic files to/from an Activity, capture information about a new Activity, or delete an existing Activity.

Activity Detail

Activity Description:

Activity ID:*

Organization ID:*

Start Date:* Time Time Zone

End Date: Time Time Zone

Projects:* [Add](#) [remove](#)

Type:*

Media:*

Media Subdivision:

Personnel: [Add](#)

Conducting Organization: [Add](#)

Comment:

Activity Location:

Monitoring Location:

Name:

Latitude & Longitude:

Description:

Latitude: or Deg. Min. Sec.

Longitude: or Deg. Min. Sec.

[Map Latitude/Longitude](#)

Horizontal Accuracy: Units

Horizontal Coordinate System:

Horizontal Collection Method:

Source Map Scale: 1:

Actual Depth/Height: Units

Relative Depth:

Top Depth/Height: Units

Bottom Depth/Height: Units

Depth/Altitude Reference Point:

Sample Description:

Collection Method:

Equipment:

Equipment Comment:

Sample Preparation Method:

Container Type:

Container Color:

Chemical Preservative:

Thermal Preservative:

Transport and Storage:

Chain of Custody ID:

Biological Information:
 Assemblage Sampled:
 Collection Duration: Units
 Sampling Component: Place in series
 Reach Length: Units
 Reach Width: Units
 Pass Count:
 Toxicity Test Type:

Net Information:
 Type:
 Surface Area: Units
 Mesh Size: Units
 Boat Speed: Units
 Current Speed: Units

Activity Groups:

Metrics: [Show](#) [Add](#)

Results: [Show](#) [Add](#)

Attached Objects: [Add](#)

Created By:
 Last Modified By: Andy Van den Akker 04-07-2009 09:49:57 AM

[User Guide \(WOX Web\)](#) | [STORET - WOX](#) | [STORET User Assistance](#)

All of the fields related to Monitoring Locations are represented on the Monitoring Location Detail page. Required fields are indicated by an Asterisk (*).

The Add link after the Projects field label will allow you to add multiple fields for selecting a project. By filling in the field, you will be able to associate the Activity with the selected Project.

The Remove link to the right of each Project field will break the association between the activity and the selected Project.

The Add link to the right of Personnel will reveal a multi-select list box that allows you to choose Personnel to be associated with the Activity.

When the multi-select Personnel list box is displayed, the Hide Personnel link will also be displayed. You will be able to select the Hide Personnel link in order to hide the multi-select Personnel list box. However, the View-only, comma-separated list of selected personnel that is displayed to the right will continue to be displayed.

When you select a Monitoring Location, the system will automatically display the location Name, Latitude, Longitude, and Description.

Note: The additional Latitude and Longitude fields are provided in order for you to provide more detailed activity coordinates if the location alone does not suffice.

The Add link after the Conducting Organizations field label will allow you to add multiple fields for selecting an Organization. You will associate the Activity with the selected Organization by filling in the field.

The Remove link to the right of each Conducting Organization field will break the association between the activity and the selected Conducting Organization.

The Media Subdivision drop-down list is based on the selection made in the Media Name field.

The Map Latitude / Longitude link will allow you to view the coordinates on a map using various mapping services available on the WWW.

The Show link next to the Metrics label will reveal a subsection that contains a list of Metrics for the Activity.

If the Metrics list is displayed, the Show link will be replaced by a Hide link. The Hide link will hide the Metrics list.

The Add link to the right of the Metrics label allows you to add a Metric to the Activity using the Activity Metric Detail page.

The Show link next to the Results label reveals a subsection that contains a list of Results for the Activity.

If the Results list is displayed, the Show link will be replaced by a Hide link. The Hide link will hide the Results list.

The Add link to the right of the Results label will allow you to add a Result to the Activity using the Results Detail page.

Selecting the Characteristic link will open the Result Detail Page (See below).

The Add link next to the Attachments label will allow you to browse to and attach an electronic file to the Activity.

If there are any attachments for the Activity, each one will be represented by a link that allows you to download and manipulate the attachment if you have the appropriate software on their local workstation.

Each attachment, if any, will have a Remove link to the right of the link representing the attachment. When selected, the Remove link will first prompt you for a confirmation of the action and then detach the associated file from the Activity.

As specified above, the Delete button, when selected, will prompt you for confirmation. Due to the fact that deleting an Activity has the potential to cascade deletes to many related records across the system, the prompt will also provide a severe warning and you will have to confirm the delete by actually typing something like "YES" or "DELETE" in a box and then selecting OK. Deleting a Monitoring Location will automatically "cascade" the following deletes:

- Attached Binary Objects
- Results

The system will automatically keep an audit history of deleted records including, at a minimum, the table and record ID of the record being deleted, the user who deleted the record, and the date and time the deletion took place.

8.6.1 Activity Detail Rules

The following rules apply to an activity:

- Activity Depth/Height can be provided in only one of the following two ways (but not both):
 - Specific depth using Actual Depth/Height

- Depth Range using Top Depth/Height and Bottom Depth/Height
 - This method must be used when Activity Type is “Sample-Integrated Vertical Profile”.
- When Activity Type contains the word 'Sample', Sample Collection Method must be provided.
- Activity Location’s Monitoring Location may be required depending on the value provided for Activity Type. See the lookup table for Activity Type for more information.
- If Sample Preparation block is provided, then either Chemical Preservative Used or Thermal Preservative Used must be provided.
- If Net Type = "Net/Horizontal Tow" then Boat Speed is required.
- If Net Type is provided then the Sample Collection Equipment must be one that relates to that type of equipment.
- The following elements are required for an Activity:
 - Activity ID
 - Activity
 - Activity Media
 - Activity Start Date
- The following are conditionally required for an Activity based on the XML schema for WQX:
- If the Start Time is filled in, the Start Time Zone must be filled in and vice versa.
- If the End Time is filled in, the End Time Zone must be filled in and vice versa.
- If the Actual Depth/Height is populated, the corresponding Units of Measurement field must be filled in and vice versa.
- If the Top Depth/Height is populated, the corresponding Units of Measurement field must be filled in and vice versa.
- If the Bottom Depth/Height is populated, the corresponding Units of Measurement field must be filled in and vice versa.
- If the Activity Location is populated then the Latitude and Longitude fields must be populated.
 - If the Location Horizontal Accuracy Measure is populated, the corresponding units must be populated and vice versa.
 - If the Activity Location is populated, the Horizontal Collection Method field must be populated.
 - If the Activity Location is populated, the Horizontal Coordinate System must be populated.
 - If the Biological Information Collection Duration is populated, the corresponding units field must be populated.
 - If the Biological Information Reach Length is populated, the corresponding units field must be populated.
 - If the Biological Information Reach Width is populated, the corresponding units field must be populated.
 - If any of the fields in the Net Information section are populated, then the following fields must also be populated:
 - Net Information Type
 - Net Surface Area (and units)
 - Net Mesh Size (and units)
 - If the Net Surface Area is populated, the corresponding Units field must also be populated.
 - If the Net Mesh Size is populated, the corresponding Units field must also be populated.
 - If the Net Boat Speed is populated, the corresponding Units field must also be populated.
 - If the Net Current Speed is populated, the corresponding Units field must also be populated.
 - If any of the fields in the Sample Description section are populated, the following fields must also be populated:
 - Collection Method
 - Equipment

- If the Preparation Method field, the Container Type, Container Color, Chemical Preservative, Thermal Preservative, or Transport and Storage are populated, the following fields must also be populated:
- Container Type
- Container Color
- Transport and Storage

8.7 Metric Detail Page

The Metric Detail page will allow you to view, edit, and capture information about a specific Metric for an Activity. You will be able to maintain associations between existing Biological / Habitat Indices and the displayed Activity Metric. This page will also allow you to delete the displayed Activity Metric.

The Bio / Habitat Indices sub-section displays a list of Bio / Habitat Indices the Activity Metric is associated to (if any).

The following conditional required fields rules apply based on the WQX XML Schema: If the Value field is populated then the Units code must be populated and vice versa.

8.8 Result Detail Page

The Result Detail page allows you to view, edit, capture, or delete a record of an activity result. You can manage a list of Detection / Quantification Limits for an existing Result. You will be able to manage a list of Frequency Classes for an existing Result. You is able to attach / detach electronic files to / from the Result.

You are here: [Home](#) >> [Activities](#) >> [Activity Detail](#) >> Result Detail

Result Detail

Description:
 Activity ID:* [ML104142008](#)
 Data Logger Line:
 Characteristic Name:* [Nitrogen, Nitrite \(NO2\) + Nitrate \(NO3\) as N](#)
 Method Speciation:
 Sample Fraction:
 Detection Condition:
 Result Value: Units Qualifier

Detection/Quantitation Limits: [Add](#)
 Status:
 Statistical Base:
 Value Type:
 Weight Basis:
 Time Basis:
 Temperature Basis:
 Particle Size Basis:
 Precision Value:
 Bias Value:
 Confidence Interval Value:
 Upper Confidence Limit Value:
 Lower Confidence Limit Value:
 Result Depth Value: Units
 Result Depth Reference Point:
 Comment:

Lab Information:
 Analytical Method: [{none}](#)
 Lab Sample ID:
 Lab Batch ID:
 Laboratory Name:
 Analysis Start Date: Time Time Zone
 Analysis End Date: Time Time Zone
 Laboratory Comment:
 Laboratory Accredited:
 Accreditation Authority:
 Taxonomist Accredited:
 Accreditation Authority:

Lab Sample Preparation: [Add](#)

Attached Objects: [Add](#)
 Created By: Andy Van den Akker - 03-13-2009
 Last Modified By: Andy Van den Akker - 03-13-2009

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The Activity ID will be a link that, when selected, allows you to navigate to the Activity that the displayed result pertains to.

The Characteristic Name will be a link that opens a pop-up list of characteristics (the Characteristic Pick List). If you select a Characteristic from the pop-up list, the system will display the associated name on the Result Detail page.

The page will have a subsection for managing Detection / Quantitation Limits.

- The Add link to the right of the Detection / Quantitation Limits field will allow you to add new rows to the list of Detection / Quantitation Limits.
- The Remove link to the right of each row in the list of Detection / Quantitation Limits will allow you to remove the corresponding Detection / Quantitation Limit.

The Biological section will not be visible for non-biological results.

The Taxonomic Name field will be a link, which, when selected, will open a pop-up list of Taxonomic Names (the Taxonomic Name Pick List). If you select one of the Taxonomic Names from the list, the system will display the name in the Result Detail page as the very link that opens the pop-up list.

The Add link next to the Functional Feeding Group label will allow you to add up to 3 fields for capturing functional feeding groups for the Result. Each Functional Feeding Group field will have a Remove link to the right of the field which will allow you to remove the field.

The Citation field will be a link that, when selected, opens a pop-up form that allows you to search for and select a Citation from the Citation lookup table. If you select a Citation from the list, the system will display the Citation ID and Title; which will become the text for the link that opens the pop-up list.

There will be a sub-section that will allow you to manage Frequency Class Information for the Result.

- A maximum of three Frequency Classes will be allowed per Result.
- The Add link will allow you to add a new row of fields for capturing a Result Frequency Class.
- Each row in the sub-section will have a Remove link that, when selected, removes the corresponding Frequency Class record from the displayed Result.

The Analytical Method field will be a link that, when selected, opens a pop-up form that allows you to search for and select an Analytical Method (Analytical Method Pick List). If you select one of the Analytical Methods in the list, the system will display the number and name of the Analytical Method as the very link used to open the pop-up list.

If the Laboratory Accreditation Authority field is filled in and you save, the system will automatically ensure that the Laboratory Accredited check box is selected.

If the Taxonomist Accreditation Authority field is filled in and you save, the system will automatically ensure that the Taxonomist Accredited check box is selected.

As specified above, the Delete button, when selected, will prompt you for confirmation. Due to the fact that deleting a Result has the potential to cascade deletes to many related records across the system, the prompt will also provide a severe warning and you will have to confirm the delete by actually typing something like "YES" or "DELETE" in a box and then selecting OK. Deleting a Result will automatically "cascade" the following deletes:

- Attached Binary Objects

The system will automatically keep an audit history of deleted records including, at a minimum, the table and record ID of the record being deleted, the user who deleted the record, and the date and time the deletion took place.

8.8.1 Result Detail Rules

The following rules apply to a result:

- Result Status is required.
- Characteristic Name is required
- When Detection Condition is 'Not Detected', 'Present Above Quantification Limit' or 'Present and Below Quantification Limit', then Detection Quantitation Limit Type Name and Detection Quantitation Limit must be provided.
- Either Result Value or Detection Condition must be provided, but not both.
- When Detection Quantitation Limit is provided, Detection Quantitation Units must be provided.
- Analytical Method may be required depending on the value provided for Activity Type. See the lookup table for Activity Type for more information.
 - However, Analytical Method is never required if Biological Intent is "Individual", "Population Census", "Frequency Class", or "Group Summary".
- Sample Fraction may be required depending on the value provided for Characteristic Name. See the lookup table for Characteristic Name for more information.
- Analytical Method Context must either match a value from the Analytical Method Context lookup table or it must be the same as the value for the Organization ID provided in the submission file.
- If the Method Context matches a value from the lookup table, then the Method ID must also match a value from the Analytical Method lookup table (for that Context). Furthermore, Method Name, Method Qualifier Type, and Method Description are not required and will be ignored (since only the ID and Context are needed to uniquely identify the Analytical Method).
- If the Method Context matches the Organization ID of the user (indicating the user's own method), then Method ID and Method Name are both required, but do not need to match a value from the lookup table (since they are the user's). Additionally, Method Qualifier Type Name and Method Description Text can be provided, but are optional, to further describe the Analytical Method used.
- Result Value may be constrained to a lookup table depending on the value provided for Characteristic Name. See the lookup table for Characteristic Name for more information.
- If a numeric value is provided for Result Value, then Result Value Units and Result Value Type are required.
 - The exception to this is when the Result Value is a Characteristic Pick List Value. These do not have units.
- If Biological Intent is "Group Summary" then Group Summary Count Weight must be provided.
- If Biological Intent Name is "Frequency Class" then Result's Characteristic Name must be "Count".
- If Biological Intent Name is "Population Census" then Result's Characteristic Name must be "Count" or "Total Sample Weight".
- Frequency Class Descriptor Unit may be required depending on the value provided for Frequency Class Descriptor. See the lookup table for Frequency Class Type for more information.
- Frequency Class Information's Lower Class Bound Value and Upper Class Bound Value may be required depending on the value provided for Frequency Class Descriptor. See the lookup table for Frequency Class Type for more information.
- When Activity Type contains the word 'Logger', Data Logger Line must be provided.
- When Activity Media is "Tissue" then Biological Intent Name must also be "Tissue" (and vice-versa).
- When Activity Media (or Biological Intent) is "Tissue", then Sample Tissue Anatomy must be provided.

- When Activity Media is "Biological" then Assemblage Sampled must be provided.
- The following will be conditionally required based on the XML schema for WQX:
- If Measure Value is populated, Measure Unit must be populated and vice versa.
- If any of the fields in the Biological section or the Taxonomic Details or the Frequency Class Information sections are populated then the following fields from the same section must be populated:
 - Biological Intent Name
 - Subject Taxonomic Name.
- If Group Summary Count / Weight Measure Value is populated then the Measure Unit must be filled in and vice versa.
- When a Frequency Class is added to a result, the Descriptor must be populated.
- When a file is attached to a result, the system must/will automatically capture the file name and the file type.
- If the Lab Analysis Start Time is populated, the Start Time Zone must also be populated and vice versa.
- If the Lab Analysis End Time is populated, the End Time Zone must also be populated and vice versa.
- If a Detection / Quantitation Limit is added to the Result, the Type Name must be populated.
- If a Detection / Quantitation Limit is added to the Result and the Limit is populated, the Units must also be populated and vice versa.
- If a Lab Sample Preparation is added to a Result, the Preparation Method is required.
- If a Lab Sample Preparation is added to a Result and the Start Time is populated, the Start Time Zone must be populated and vice versa.
- If a Lab Sample Preparation is added to a Result and the End Time is populated, the End Time Zone must be populated and vice versa.

8.9 Activity Groups List Page

The Activity Group page is used to view a list of Activity Groups that have been entered or imported into the system. This page is used to navigate or “drill down” to the details for a specific existing Activity Group record or to navigate to a blank form for entering a new record for an Activity Group that has not yet been captured in the system.

You are here: [Home](#) >> Activity Groups

Activity Groups

Organization ID: Group ID: Type:

Activity Dates Between: and:

Organization ID	Group ID	Type	Name	First Date	Last Date	Activity Count
KATTEST	KATRINA TEST	Field Set	TEST456	09-03-2005		7

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You will be able to filter the list using the Organization ID, Group ID, Activity Type, and / or Date fields at the top of the page and subsequently selecting the Search button.

Selecting on a link in the Group ID column will take you to the Activity Group Details Page for the specific Activity Group selected.

Selecting the Add New button will take you to a blank Activity Group Detail Page so that an activity group can be created.

8.10 Activity Groups Detail Page

This page is used to view and/or edit a specific existing Activity Group record, add/remove an Activity to/from an existing Activity Group record, capture information about a new Activity Group, or delete an existing Activity Group.

You are here: [Home](#) >> [Activity Groups](#) >> Activity Group Detail

Activity Group Detail

Organization:

Activity Group ID:*

Name:

Type:*

Created By: Nathan Bove - 10/29/2008 4:49:48 PM

Last Modified By: Nathan Bove - 1/7/2009 3:38:11 PM

Activities: [Add](#)

Activity ID	Type	Start Date	Media	Monitoring Location ID	Monitoring Location Name	
090305-TN-SW01-G-D-01	Quality Control Field Calibration Check	09-03-2005	Water			Remove
RS004-PB-G-D-091005	Quality Control Sample-Field Replicate	09-10-2005	Sediment	7982	golf green	Remove
090305-TN-SW02-G-D-01	Quality Control Sample-Field Replicate	09-03-2005	Water	7460	Causeway adjacent to Delta Pet	Remove
090305-TN-SW03-G-D-01	Quality Control Sample-Field Replicate	09-03-2005	Water	7461	Exit 236 off I-10	Remove
090305-TN-SW04-G-D-01	Quality Control Sample-Field Replicate	09-03-2005	Water	7462	Exit 236B off I-10	Remove
090305-TN-SW05-G-D-01	Quality Control Sample-Field Replicate	09-03-2005	Water	7463	Exit 240B off I-10	Remove
090305-TN-SW06-G-D-01	Quality Control Sample-Field Replicate	09-03-2005	Water	7464	I-610 adjacent to St. Bernard	Remove

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The page contains a sub-section for maintaining a list of Activities associated with the Activity Group.

- The Add link will allow you to associate an existing Activity to the Activity Group.
- Each associated Activity will be represented by a row in the sub-section.
- Each associated Activity ID will be a link that “drills down” to the detail page for the selected Activity.
- Each associated Activity will have a Remove link that, when selected, breaks the association between the Activity Group and the corresponding activity.
- When you select the Remove link, the system will prompt you for confirmation before breaking the activity’s association to the Activity Group.

Deleting an Activity Group WILL NOT cascade deletes to related Activities.

8.10.1 Activity Group Detail Rules

The following elements are required for an Activity Group:

- Activity Group ID

- Activity Group Type
- 2 or More Activity IDs are required

8.11 Bio / Habitat Indices List Page

This page is used to view a list of Biological / Habitat Indices that have been entered or imported into the system. You will be able to use this page to navigate or “drill down” to the details for a specific existing Biological / Habitat Index record or to navigate to a blank form for entering a new record for a Biological / Habitat Index that has not yet been captured in the system.

You are here: [Home](#) >> Bio/Habitat Indices

Bio/Habitat Indices

Organization ID: Index ID:

Monitoring Location ID:

Date Between: And

Organization ID	Index ID	Index Type ID	Score	Calculated Date	Monitoring Location ID
TRIBALDEMO	04162008	IBI	15	04-16-2009	ML1

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You will be able to filter the list using the Organization ID, Monitoring Location ID, Index ID, and/or Date fields at the top of the page and subsequently selecting the Search button.

Selecting a link in the Index ID column will take you to the Biological / Habitat Index Details Page for the specific Biological / Habitat Index selected.

8.12 Bio/Habitat Indices Detail Page

This page is used to view and/or edit a specific Biological / Habitat Index, add/delete Metrics to/from a specific Biological / Habitat Index, capture information about a new Biological / Habitat Index, or delete an existing Biological / Habitat Index.

You are here: [Home](#) >> [Bio/Habitat Indices](#) >> Bio/Habitat Index Detail

Bio/Habitat Index Detail

Index ID:*

Organization ID:*

Index Type:*

Score:* Qualifier:

Calculated Date:

Monitoring Location:*

Comment:

Created By: Andy Van den Akker - 04-17-2009 03:51:10 PM

Last Modified By: Andy Van den Akker - 04-17-2009 03:51:10 PM

Metrics: [Add](#)

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The system uses flags “behind the scenes” to track when these items are changed. The system will use the flags to ensure that the changes will be included in the next Biological / Habitat Indices Export.

The page will have a sub-section for maintaining a list of associated Activity Metrics for the Biological / Habitat Index.

The Add link in the Metrics section will allow you to associate a new metric to the Biological Habitat Index record. You will be presented with the Activity Metrics search page where they can search for and select multiple activity metrics to be associated with the Biological / Habitat Index.

The Remove link next to a metric will ask for a confirmation and will delete the metric from the Biological / Habitat Index upon your confirmation.

Deleting a Biological/Habitat Index WILL NOT cascade deletes to related Activities.

8.12.1 Bio/Habitat Indices Detail Rules

The following elements are required for a Biological / Habitat Index:

- Index ID
- Index Type ID
- Index Type Context
- Index Type Name
- Index Score Numeric
- Monitoring Location ID

8.13 Add Metrics to Index

This page is used to search for and select Activity Metrics. An example usage of this page would be for associating Activity Metrics to a Biological / Habitat Index.

You are here: [Home](#) >> [Bio/Habitat Indices](#) >> [Bio/Habitat Index Detail](#) >> Add Metrics to Index

Add Metrics to Index

Activity ID: Activity Type:

Project ID: Monitoring Location ID:

Activity Dates Between: and:

	Metric Type ID	Activity ID	Date	Activity Type	Monitoring Location ID	Monitoring Location Name
<input type="checkbox"/>	% Burrower Taxa	1156	09-04-2007	Sample-Routine	234	Williston Lake
<input type="checkbox"/>	% Non-Insect Taxa	1156	09-04-2007	Sample-Routine	234	Williston Lake
<input type="checkbox"/>	% Ephemeroptera Taxa	1156	09-04-2007	Sample-Routine	234	Williston Lake
<input type="checkbox"/>	Clinger Taxa Richness	415	09-04-2007	Sample-Routine	234	Williston Lake
<input type="checkbox"/>	Shredder Richness	3434	09-04-2007	Sample-Routine	643	Smith Island Inlet
<input type="checkbox"/>	% Non-Insect Taxa	133	09-04-2007	Sample-Field Subsample	643	Smith Island Inlet
<input type="checkbox"/>	Clinger Taxa Richness	4341	09-04-2007	Quality Control Sample-Blind Duplicate	643	Smith Island Inlet
<input type="checkbox"/>	Total Taxa Richness	333	09-04-2007	Sample-Routine	643	Smith Island Inlet
<input type="checkbox"/>	Shredder Richness	443	09-04-2007	Quality Control Field Calibration Check	643	Smith Island Inlet
<input type="checkbox"/>	Total Taxa Richness	535	09-04-2007	Sample-Field Subsample	643	Smith Island Inlet
<input type="checkbox"/>	Total Taxa Richness	366	09-04-2007	Sample-Routine	643	Smith Island Inlet

This page does not fit the model for a standard list page or a standard form page. Therefore, only the basic standard features apply. All other functionality is described here.

You will be able to use the Activity ID, Project ID, Activity Type, Monitoring Location ID, and the Date fields and subsequently select the Search button at the top of the page to find relevant Activity Metrics.

You will be able to select Activity Metrics to be returned using the check boxes to the left of each Activity Metric. The system will track which metrics have been checked on previous pages while you pages through the list.

If you select the Add button, the system will return to the previous page and return the metrics to be used by the previous page.

If you select the Cancel button, the system will return to the previous page but will not return the metrics to be used by the previous page.

8.14 Rapid Data Entry

The Rapid Data Entry page is a customizable page designed with many time saving features to simplify the data entry of Activities and Results. The page is driven by an import configuration which defines the fields (and their order on the page), default values, drop-down lists (driven by translations) and contains pre-populated rows of Results (driven by a translation which includes the Characteristic Name). For more information about rapid entry configurations see sections 4.8 and 4.9.

You are here: [Home](#) >> Rapid Data Entry

Rapid Data Entry

Activity ID

Monitoring Location ID

Project ID

Activity Start Date

Activity Start Time

Activity Start Time Zone

Activity Type

Sample Collection Method ID

Sample Collection Equipment Name

Activity Media Name

Activity Depth/Height Measure

Activity Depth/Height Unit

Organization ID

Characteristic Name	Result Value	Result Value Type	Result Status ID	Result Detection Condition	Characteristic Name	Method Speciation	Result Sample Fraction	Result Unit	Result Analytical Method ID	Result Analytical Method Context	Translated Values	
											Result Detection/Quantitation Limit Type	Result Detection/Quantitation Limit Measure
Chloride		Actual	Final		Chloride		Total	mg/l	00-01	USEPA	Method Detection Level	.005
DO		Actual	Final		Dissolved oxygen (DO)		Dissolved	mg/l	00-03	USEPA		
Discharge Velocity		Actual	Final		Velocity-discharge		Total	dfs	00-02	USEPA		
E. coli		Actual	Final		Escherichia coli		Total	cfu/100ml	00-04	USEPA		
Fecal Coliform		Actual	Final		Fecal Coliform		Total	cfu/100ml	00-05	USEPA		
Nitrogen as N		Actual	Final		Nitrogen as N		Total	mg/l	00-06	USEPA	Method Detection Level	.006
Nitrogen as NH3		Actual	Final		Nitrogen as NH3		Total	mg/l	00-07	USEPA	Method Detection Level	.007
Temp		Actual	Final		Temperature, water			deg C	00-09	USEPA		

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After clicking the Save button, each result that was saved will be highlighted in green. This is an important feature because it can be difficult to tell the difference between an unmodified row (just populated with default values) and a modified row which resulted in a new result being added to the database.

After saving, the page will also display a link titled "Go To Activity" at the top of the page just before the first field. This will allow you to review the Activity (and related Results) that were just saved, as well as populate fields that are not on the Rapid Data Entry page (if any).

You are here: [Home](#) >> Rapid Data Entry

Rapid Data Entry

All items saved successfully.

[View Saved Activity and Results](#)

Activity ID

Monitoring Location ID

Project ID

Activity Start Date

Activity Start Time

Activity Start Time Zone

Activity Type

Sample Collection Method ID

Sample Collection Equipment Name

Activity Media Name

Activity Depth/Height Measure

Activity Depth/Height Unit

Organization ID

Characteristic Name	Result Value	Result Value Type	Result Status ID	Result Detection Condition	Characteristic Name	Method Speciation	Result Sample Fraction	Result Unit	Result Analytical Method ID	Result Analytical Method Context	Translated Values	
											Result Detection/Quantitation Limit Type	Result Detection/Quantitation Limit Measure
Chloride		Actual	Final		Chloride		Total	mg/l	00-01	USEPA	Method Detection Level	.005
DO	25	Actual	Final		Dissolved oxygen (DO)		Dissolved	mg/l	00-03	USEPA		
Discharge Velocity		Actual	Final		Velocity-discharge		Total	dfs	00-02	USEPA		
E. coli		Actual	Final		Escherichia coli		Total	cfu/100ml	00-04	USEPA		
Fecal Coliform	200	Actual	Final		Fecal Coliform		Total	cfu/100ml	00-05	USEPA		
Nitrogen as N		Actual	Final		Nitrogen as N		Total	mg/l	00-06	USEPA	Method Detection Level	.006
Nitrogen as NH3		Actual	Final		Nitrogen as NH3		Total	mg/l	00-07	USEPA	Method Detection Level	.007
Temp	77	Actual	Final		Temperature, water			deg C	00-09	USEPA		

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The “Save and Add New” button will save data on the page and then clear it, so that you can enter a new set of data (without having to exit the page and return).

9. EXPORTING / SUBMITTING DATA TO WQX

The WQX Export page is shown in Figure 81.



The screenshot shows the 'WQX Export' page with the following settings: Organization (empty dropdown), Parameter Group (Send All Data), Export Type (Only the records that have changed since my previous export), and Previous Export (empty dropdown). A 'Continue' button is visible at the bottom left. At the bottom right, there are links for 'User Guide (WQX Web)', 'STORET - WQX', and 'STORET User Assistance'.

You have two typical choices for submitting your dataset to CDX.

Default: Submit the data to CDX directly from the AWQMS Application.

This is the simplest option because it can be exported and submitted in one step.

AWQMS will track the status of the submission at CDX and automatically download relevant documents (for example, Processing Report) so you can follow up on any issues that may have occurred while the file was being processed by the WQX System.

Export the data to a WQX-compatible submission file and send it to CDX via your state or tribal node.

If your state or tribe has its own node and protocol is that all data flows should go through your local node, this is the appropriate choice for you.

To export and submit a dataset to CDX:

In the WQX Export Page, select an Organization.



The screenshot shows the 'WQX Export' page with the following settings: Organization (TRIBALDEMO), Parameter Group (Send All Data), Export Type (Only the records that have changed since my previous export), and Previous Export (empty dropdown). A 'Continue' button is visible at the bottom left. At the bottom right, there are links for 'User Guide (WQX Web)', 'STORET - WQX', and 'STORET User Assistance'.

Select a Parameter Group (if available). Parameter groups are a way to filter your output to only include results relating to a specific group of characteristics or taxa. Support for them is very limited in AWQMS 1.0. They must be set up for your organization outside of the application.

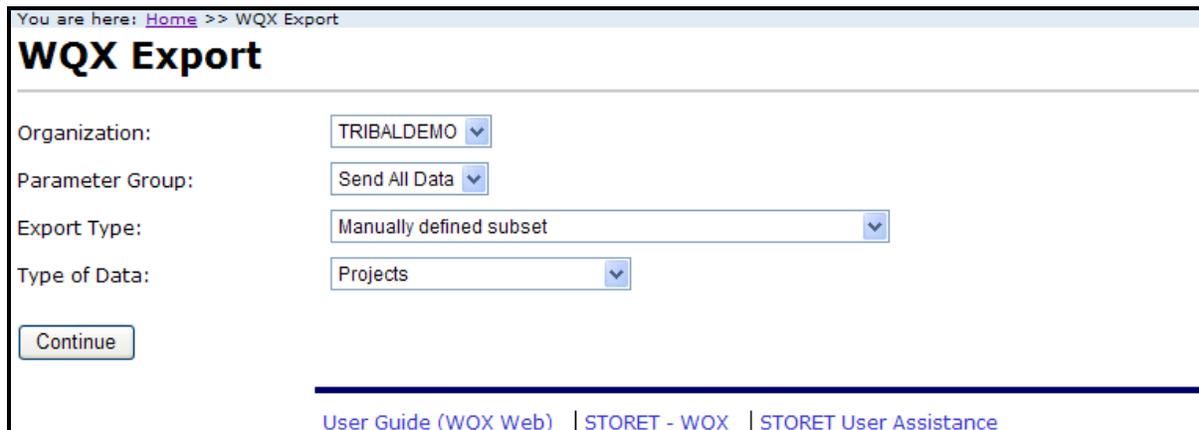
Select the Export Type. The options are:

All data for this organization

Only the records that have changed since my previous export

Manually defined subset

If “Manually defined subset” is selected then you must enter in the type of data.



The screenshot shows a web interface for "WQX Export". At the top, it says "You are here: [Home](#) >> WQX Export". Below this is the title "WQX Export". The form contains four dropdown menus: "Organization:" with "TRIBALDEMO" selected, "Parameter Group:" with "Send All Data" selected, "Export Type:" with "Manually defined subset" selected, and "Type of Data:" with "Projects" selected. A "Continue" button is located below the "Type of Data:" dropdown. At the bottom of the form, there are three links: "User Guide (WOX Web)", "STORET - WOX", and "STORET User Assistance".

The Types of Data options are:

Projects

Monitoring Locations

Biological/Habitat Indices

Activities, Metrics, and Results

If this is chosen, a date range can be provided for the Activity Date.

Select the Continue button.

You are here: [Home](#) >> [Datasets](#) >> [Dataset Summary](#) >> Export

Export

WQX XML File:

Export Only

Export and Submit to CDX

Header Information:

Author:*

Organization:*

Contact Info:*

Comment:

You have two choices when exporting. If you do not wish to submit to CDX (because you have your own node, or you have already submitted this dataset), then choose Export Only. Otherwise, leave the default choice of Export and Submit to CDX.

The Header Information is used to populate the header that is part of every Exchange Network Submission File. This section is automatically populated from the data from your User Detail Page. Correct any of the header information as necessary. It helps identify who submitted the file and allows you to add any comments that might be helpful (mostly for internal use) in understanding what this dataset includes.

Select the Continue button to begin the export.

The system will display the Dataset Summary page. When datasets are being imported or exported the Dataset Summary Page has a simplified layout. The page provides information regarding the status of a dataset, including the percent complete and a count of any warnings or errors logged so far. An animated image will spin to remind you that an active process is running on the server.

You are here: [Home](#) >> [Datasets](#) >> Dataset Summary

Dataset Summary

Type: Activities and Results
Import Configuration: [Ryan Debug Results - Expanded](#)
Status: Waiting to Export and Submit (0% Complete)
[click Refresh Button to update status](#)
Errors & Warnings: 0 / 0
Start Time:
End Time:

The status of the dataset is displayed. During the export process the status will be one of the following:

Waiting to Export – The dataset has been queued for exporting but has not yet started. Generally a dataset only has this status for a fraction of a second. In many cases you will not even see this status. However, in some cases when the server is heavily loaded, a dataset may remain in this state for an extended period of time waiting for other datasets to finish processing.

Waiting to Export and Submit – Same as previous status, but only used when submitting to CDX

Exporting – The dataset is being exported.

Keep in mind that this page does not continue to show you the status updates automatically. You must initiate the process manually (as explained in the next step).

After waiting 10 or 20 seconds, select the Refresh button and check the Status. If it is exporting, you will be able to see the percentage complete and start to get a feel for how long it will take to finish exporting. Select the Refresh button periodically to update the status.

Note that the percent complete only includes the export process (in this system). It does not include the time for the WQX System to process your file. A rough way to estimate the time to completion (when submitting) is to double the export time. For example: If after about 5 minutes the export process is 20 percent complete you can roughly estimate the export process to take about 25 minutes and an additionally 25 minutes for WQX to process your file at CDX. Rather than continue to hit Refresh while the file processes, if it appears that it will take more than a few minutes to complete you can choose to navigate elsewhere in the system and perform other tasks or leave the system entirely and come back at a later time. The process will continue on its own and you can check back at any time by navigating to the Datasets list page and selecting this dataset (to return to this page)

You are here: [Home](#) >> [Datasets](#) >> Dataset Summary

Dataset Summary

Type:
Import Configuration:
Status: Exported

Export

Errors & Warnings: 0 / 0
Start Time: 04-20-2009 02:19:16 PM
End Time: 04-20-2009 02:19:17 PM
File/Transaction ID:

Documents (available for download)

[SubmissionFile-1929.zip](#)

Datasets are Temporary

A dataset is created in the staging area to temporarily hold the data you are exporting.
The system will delete this dataset if it remains in the staging area more than 170 days.

When the export process completes the dataset will have one of the following statuses:

Exported – The dataset has been exported. This is only used when you are not submitting to CDX. When submitting to CDX this status is skipped.

Processing at CDX – The submission file has been submitted to CDX and is being processed there.

At this point, the Dataset Summary Page will display an additional table with links to files that you can download.

One or two documents will be available after the export has completed.

SubmissionFile-9999.zip – This is your WQX Submission File (zipped up). The numeric portion of the name will be different each time.

If your status is "Processing at CDX" you can continue to check on the status periodically by selecting the Refresh button.

When the processing at CDX is completed, the dataset will have one of the following statuses:

Failed at CDX – At least one error was logged while processing the file in the WQX System at CDX.

Completed at CDX – No errors were found while processing the file in the WQX System at CDX. All of your data successfully loaded.

At this point, or soon after reaching one of these final statuses, the Refresh button will update the list of Documents to include all of the documents created during the processing at CDX (in addition to the ones mentioned previously).

Dataset Summary

Type: Activities and Results
 Import Configuration: [Ryan Debug Results - Expanded](#)
 Status: Failed at CDX

	<u>Import</u>	<u>Export</u>
Errors & Warnings:	31 / 0 View Log	0 / 0
Start Time:	12-16-2008 05:35:31 PM	12-16-2008 10:49:00 PM
End Time:	12-16-2008 05:35:35 PM	12-16-2008 10:49:01 PM
File/Transaction ID:	Ryan - Debug Results - Expanded.txt	_d5b613cb-4175-4580-aa0f-deda2f4b8fb2

Record Counts	Valid	Invalid	Validation Errors	Original	Remaining
Result	16	0	Invalid Domain Value	8	0
Activity	8	0	Invalid Format	9	0
Activity Group	4	0	Max Length Exceeded	2	0
			Required Value Missing	12	0

Documents (available for download)

[SubmissionFile-1465.zip](#)
[FlatFile-1465.txt](#)
[ValidationResults.xml](#)
[Notify.xml](#)
[ProcessingReport.zip](#)

[Return](#) [Refresh](#) [Delete](#) [Export/Submit File\(s\)](#)

The documents available for download are as follows (in the order they are created in the export/submit process):

SubmissionFile-9999.zip – This is your WQX Submission File that was created in the export process. The numeric portion of the name will be different for each dataset. This is an XML document contained inside a Zip File.

Even if you submitted this file directly to CDX, you are encouraged to download a copy of this for your own records (so that you have a backup copy of each file sent to EPA).

ValidationResults.xml – This is a report produced by CDX when it compares your submission file against the WQX XML Schema document (which is a document that describes the format that every WQX Submission File must follow). Typically you will not need to view this document because it will just say that the document was valid. If, for some reason, you never receive the next two documents mentioned below, you should view this document to see if it describes a problem with your file. If it does, you should follow up with EPA because this may suggest a bug in the system that needs to be resolved.

Notify.xml – This is copy of the final response that the WQX System sent to CDX when it was done processing your submission file. Typically you will not need to view this document because it will just state the final status of your submission (which you already have on this page) and remind you to view the Processing Report (next) to view the outcome of your submission. Once again, if, for some reason, you never receive the next document mentioned below, you should view this document to see if it describes a

problem that occurred in the WQX System. If it does, you should follow up with EPA because this may suggest an issue in the WQX System that needs to be resolved.

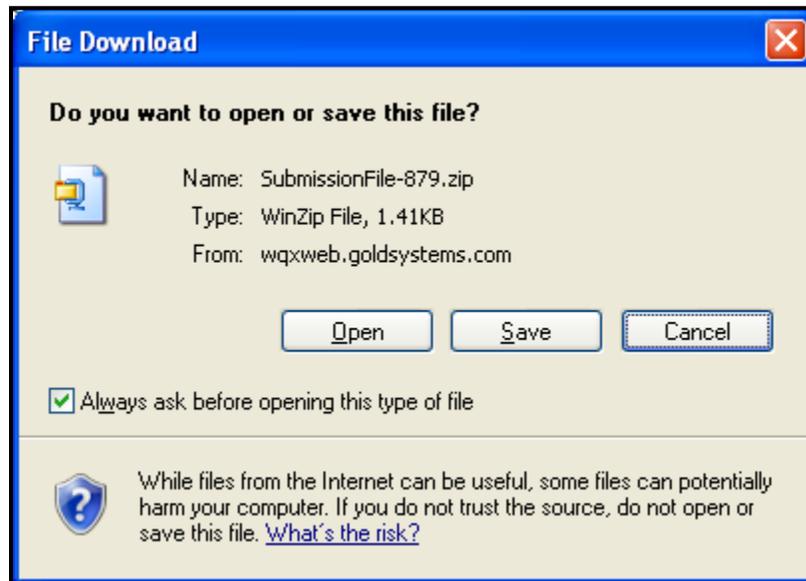
ProcessingReport.zip – This is a report of everything that was logged in the WQX System while processing your submission file. It's not critical to look at this file if your dataset status is "Completed at CDX" because all of your data loaded successfully and there is nothing more you need to do. It still may be useful to download and save this file for your records because it contains information that could be useful to you or EPA at some future time. If your final dataset status is "Failed at CDX", however, this file is critical for you to look at, because it contains information about errors while processing your submission file in WQX.

Keep in mind that the WQX System will only reject records with errors. So every Project, Monitoring Location, Index, Activity and Activity Group that loaded without error will be in the WQX System even if your dataset status is "Failed at CDX".

A few details to note when downloading documents from the Dataset Summary Page:

Certain types of documents will often load in your browser window. Typically this is true for .txt and .xml files.

Zip files will download by default, so you can select their links and you will be given the opportunity to specify the location that you want to save the file.



Unzip the file locally and then open the XML File found inside (ProcessingReport.xml). If you open the processing report in Internet Explorer it will be converted to a web-based report using a stylesheet created by EPA. This provides a more user-friendly format (see below) but also only provides a summary of the errors. If you want to view each individual error you will need to open the XML document in a text editor.

Here's an example of what the log portion of the processing report looks like when viewed in the browser:

Processing Log

*This table shows unique errors. For line-specific errors, view the source XML file by viewing the Page Source in the Browser	
Message	Parse and Load started at 12/16/2008 11:00:58 PM
Error	Project Identifier "My Main Project" is invalid
Error	Analytical Method Identifier Context (WQXTEST) is invalid. The value must match a value from the domain list or be the same as your Organization Identifier if it's your own private method).
Error	Sample Fraction Name is required when Characteristic Name = "Pyrazon"
Error	Characteristic Name and Result Status Identifier are required when Result Measure is reported
Error	Characteristic Name must be "Count" when Biological Intent Name is "Frequency Class"
Error	Sample Fraction Name is required when Characteristic Name = "Potassium bisulfate"
Error	Monitoring Location Identifier "Monitoring Location 2" is invalid
Error	Project Identifier "Project 2" is invalid
Error	Project Identifier "Project 1" is invalid
Error	Sample Fraction Name is required when Characteristic Name = "5-Nitrovanillin"
Error	Characteristic Name must be "Count" or "Total Sample Weight" when Biological Intent Name is "Population Census"
Error	Monitoring Location Identifier "Monitoring Location 3" is invalid
Error	Sample Collection Method is required when Activity Type Code contains the word "Sample"
Error	Activity Identifier "A1" is invalid
Error	Activity Identifier "A2" is invalid

Message

Parse and Load completed at 12/16/2008 11:01:04 PM

10. DATA ANALYSIS USING GRAPHS, REPORTS, AND EXPORTS

10.1 Common Steps and Features When Generating Graphs, Reports, and Exports

The general procedures for obtaining a graph, report, or export from the system are the same regardless of the type.

You navigate to a criteria page specific to the desired type of graph, report, or export and enter the criteria that define what data will be included. (Certain criteria will only be available when appropriate, depending on the type of graph, report, or export).

- Select the “Data Analysis” link in the Output section of the navigation panel.



- The options for data analysis will be displayed. Select one of the options, such as “Single Characteristic Line Graph”.

Data Analysis

Graphs:

[Single Characteristic Line Graph](#)

[Single Characteristic Mean Value Bar Graph](#)

[Single Characteristic Cumulative Frequency Graph](#)

[Multiple Characteristic Line Graph](#)

[Multiple Characteristic Mean Value Line Graph](#)

[Multiple Characteristic Mean Value Line & Bar Graph](#)

[Box and Whiskers Plot](#)

[Bi-variate Scatter Plot](#)

Reports:

[Percent Exceedance Report](#)

[Single Characteristic Statistics by Location Report](#)

[Number of Exceedances per Location Report](#)

[Quartiles Report](#)

[Activity and Results Summary](#)

Export Data:

[Crosstab/Excel](#)

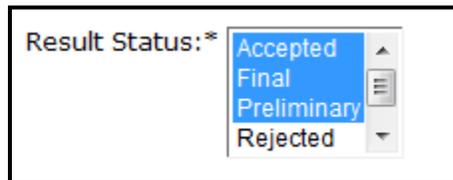
[Standard](#)

[Standard \(Abbreviated\)](#)

- The Data Analysis Criteria Page will be displayed. Enter a date range to specify which results should be included (based on Activity Start Date).

Activity Date between:* 01-01-1990  and* 04-11-2012  (MM-DD-YYYY)

- The After Date:
 - Defaults to 1/1/1970.
 - Shows you the proper standard AWQMS date format next to the label.
 - Is best entered in the standard AWQMS Date format. However is somewhat flexible; allowing both dashes and slashes.
 - Date entered must be earlier than or equal to the End Date.
 - The calendar icon next to the field allows you to select the date using a pop-up calendar.
- The Prior To Date:
 - Defaults to your computer's system date.
 - Shows you the proper standard AWQMS date format next to the label.
 - Is best entered in the standard AWQMS Date format. However is somewhat flexible; allowing both dashes and slashes.
 - Date entered must be later than or equal to the Start Date.
 - The calendar icon next to the field allows you to select the date using a pop-up calendar.
- Select the status' for which results should be included. This is a Multi-Select List that defaults to "Final". The list source is the AWQMS allowed values for a sample result status. At least one selection is required.



- If you would like results with a detection condition of either "Non-Detect" or "Present Below Quantification Limit" to be included in the graph, select the checkbox at the bottom of the page and supply a factor. Otherwise, such results will be excluded from the graph.
 - If a result is a non-detect the system will graph the Method Detection Limit multiplied by the supplied factor.
 - If a result is a present below quantification limit, the system will graph the Lower Quantification Limit multiplied by the supplied factor.
 - If the check box is selected you are indicating that you wish non-detects and present-below-Quantitation Limits to be included.
 - If the check box is selected and a result's detection condition is "Not Detected" the system will multiply the factor times the associated Method Detection Limit.

- If the check box is selected and a result's detection condition is "Present Below QL" the system will multiply the factor times the LQL.
- If the check box is not selected the system will exclude non-detects and present-below-Quantitation Limits.
- Must always be either checked or unchecked. Defaults to checked. If the check box is checked then the associated value must be supplied.

Include results that are 'Not Detected' or 'Present Below Quantification Limit':
 Use x MDL or LQL as the value

- Click the "Select Monitoring Locations" button to navigate to the Monitoring Location List page. (Certain reporting scenarios optionally allow you to specify all monitoring locations for one or more organizations without having to navigate to the Monitoring Locations List page).

Include results that are 'Not Detected' or 'Present Below Quantification Limit':
 Use x MDL or LQL as the value

Select Monitoring Locations

Refresh Characteristics



- Use the search parameter fields to filter the list of Monitoring Locations. Check the box next to the Monitoring Locations that should be added. You can conduct several such searches, if necessary. Click the Return button, when finished, to return to the Data Analysis Criteria page and add your Locations to the criteria.

Monitoring Locations

Organization ID: State (for HUC):

Monitoring Location Type: HUC 8:

Monitoring Location ID:

Name:

Select	Organization ID	Monitoring Location ID	Monitoring Location Name	Monitoring Location Type	Latitude	Longitude
<input checked="" type="checkbox"/>	TESTMARK	AAHOLLYWOOD	Hollywood on the Severn	BEACH Program Site-Estuary	39.075742	-76.589536
<input type="checkbox"/>	TESTMARK	CEHOLLYWOOD	Hollywood Beach	BEACH Program Site-Estuary	39.5028	-75.9083
<input checked="" type="checkbox"/>	TESTMARK	CEHOLLYWOOD1	Hollywood Beach	BEACH Program Site-Estuary	39.503060	-75.909930
<input type="checkbox"/>	TESTMARK	CEHOLLYWOOD2	Hollywood Beach	BEACH Program Site-Estuary	39.503320	-75.903730
<input type="checkbox"/>	TESTMARK	CEHOLLYWOOD3	Hollywood Beach	BEACH Program Site-Estuary	39.563320	-75.909520

Row 1 - 5 of 5

	Organization ID	Monitoring Location ID	Monitoring Location Name
remove	TESTMARK	AAHOLLYWOOD	Hollywood on the Severn
remove	TESTMARK	CEHOLLYWOOD	Hollywood Beach

- Certain graphing scenarios that use “Monitoring Location” as the X axis allow you change the order of the selected Monitoring Locations by selecting a sequence number from a dropdown list provided on each row.
- Unwanted Monitoring Locations may be removed from the list by clicking the remove link. Additional Monitoring Locations may be added by clicking the “Select Monitoring Locations” button again.
- Select **Refresh Characteristics** and the list of Characteristic, Unit, Sample fraction Combinations (CUSCs) sampled at the selected locations during the given date range will be displayed. The “Threshold Group” drop-down list and associated checkbox also become visible.



Threshold Group:

When restoring saved criteria, also refresh the lower/upper thresholds from the group selected above (Recommended)

	Characteristic	Unit	Sample Fraction	Lower Threshold	Upper Threshold	Show Thresholds on Graph?	Result Count
<input type="radio"/>	Enterococcus	MPN	Total	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	12
<input type="radio"/>	Temperature, water	deg F		<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	4

- Select a Threshold Group from the drop-down list to apply thresholds from the threshold group to any matching CUSCs. Alternatively, you can type Lower and/or Upper Thresholds into the appropriate fields for the selected CUSC. Thresholds are assumed to be in the same units as the CUSC. Thresholds will be plotted as horizontal lines in graphs and will be used to evaluate result values in exceedence reports.

Threshold Group: TESTMARK ~ UpToMyNeck Thresholds

When restoring saved criteria, also refresh the lower/upper thresholds from the group selected above (Recommended)

	Characteristic	Unit	Sample Fraction	Lower Threshold	Upper Threshold	Show Thresholds on Graph?	Result Count
<input checked="" type="radio"/>	Enterococcus	MPN	Total	<input type="text" value="3"/>	<input type="text" value="9"/>	<input type="checkbox"/>	12
<input type="radio"/>	Temperature, water	deg F		<input type="text" value="23"/>	<input type="text" value="46"/>	<input type="checkbox"/>	4

- Select the CUSC(s) you wish to graph, report on, or export. (NOTE: If the graph, report, or export is of a type that is for a single CUSC you will be presented with radio buttons that only allow you to select a single row. If it is of a multi-CUSC type, you will be presented with checkboxes that allow you to select multiple CUSCs. If it is of a bi-variate type, you will be presented with two sets of radio buttons that allow you to choose one CUSC as the “Y” axis and one characteristic as the “X” axis.)
- Select one or more activity types for which data should be included.

Activity Type: *
Quality Control Sample-Field Replicate
Sample-Routine

You may also enter any options that affect how the graph, report, or export is generated in the criteria page. Certain options will only be available when appropriate, depending on the type of graph, report, or export. See the sections on the specific types below for more detail.

The system will validate the criteria and options that you have specified.

If the criteria and option values are valid, the system will generate and display the graph, report, or export (or will give you the option to display or save in the case of exports). Otherwise, the system will respond with an error message that indicates what the problem is.

Other important notes common to all reports, graphs, and export criteria pages:

- You can clear all criteria values from the Data Analysis Criteria page by clicking the “Reset all Criteria” button.
- There are many multi-select lists on the criteria pages
 - Use **Click** to select one item in a multi-select list.
 - Use **Ctrl+Click** select multiple items in the multi-select lists.
 - Click on one item and then **Shift+Click** on another item to select a range of items in a multi-select list.
 - Use **Ctrl+Click** to deselect one of multiple selected items in a multi-select list.
- Select the **Return** button to return to the previous page (this would typically be the *Data Analysis* page if you are at a criteria page and would typically be a criteria page if you are looking at a graph or report). If you are examining an export and Excel is open in your browser, use the browser’s Back button to navigate back to the criteria page. If you are examining an export and Excel is open in a separate window from your browser, you can either click in your browser window or close the Excel window to get back to the criteria page.
- Select the **Continue** button to attempt to generate the report, graph, or export based on the criteria you have entered.
- The application has a status setting for results with allowed values of “Accepted,” “Validated,” “Rejected,” “Preliminary,” and “Final.” Each criteria page will have a

multi-select list that allows you to select which status or statuses to include. This could potentially be used to filter out “outlier” values if their status is set to something other than the status that is selected for inclusion in the graph, report, or export.

- There are several **Refresh** buttons on the criteria pages. Be sure to select any subsequent **Refresh** buttons after updating one or more fields in a criteria page. These allow you to refresh/filter the data in the subsequent pick lists based on entries you’ve made in the fields preceding the **Refresh** button. This design allows you to make multiple selections and entries that filter the pick lists for subsequent fields without the browser constantly reloading the web page. The design makes the criteria pages much easier and faster to use. However, there is a trade-off in that if you do not click the **Refresh** buttons when you make changes in preceding criteria fields, there is a chance that you may not be seeing all or even any of the appropriate choices in subsequent picklists.
- Depending on how a picklist in the criteria page has been filtered (or if it has not been filtered), there may be many values in a picklist. You can “jump” to the desired value more quickly by selecting the drop-down arrow next to the list and then typing the first character of the choice repeatedly until the one you want shows up.
- All reports and graphs display the search criteria used to “filter” the data. Graphs typically display this centered above the graph. Reports display the search criteria in the upper left of the report header.
- All graphs provide an option for you to specify whether to display datapoint values in pop-up tooltips, as labels on the graph, or not at all. If you opt to display datapoint values as pop-up tooltips, the tooltip containing the value will pop up as you move your mouse over the datapoint in the graph.
- While you are logged into the system, the system will remember the last criteria you entered for a report or graph and will carry those values as defaults across graph and report criteria pages. For example, if you select “My Test Monitoring Location” as the monitoring location when generating a line graph, when you navigate to any other report or graph criteria page, “My Test Monitoring Location” will already be selected in the locations list. When you navigate to another Report, Graph, or Export to the Excel page, the last search criteria you entered during the current session will automatically be available to either re-use or replace.
- You can save/recall the values you’ve entered in the Data Analysis Tool Criteria Page as a “named criteria set”. Save by typing a name and clicking the “Save” button at the top of the form. Recall by selecting the name of the criteria set from the “Saved Criteria” drop-down list. You can also delete the named criteria set by clicking the “Delete” button after having recalled the criteria set.

Criteria

Saved Criteria: Delete

Name: Save

10.2 Using Graphs

All graph types allow you to specify, in the criteria page, how datapoint values will be presented. If you would like to see datapoint values as labels on your graph, select the “Show values as labels” radio button. If you would like to see datapoint values as pop-up tooltips, select the “Show values as tooltips on mouseover” radio button. If you don’t wish to see datapoint values on your graph, select the “Don’t show values” radio button.

Display values as:*

Don't show values

Show values as labels

Show values as tooltips on mouseover

10.2.1 Single Characteristic Line Graph

Overview

The Single Characteristic Line Graph Criteria page allows you to enter search criteria for generating a graph that shows one line per characteristic over time.

Step-by-Step Instructions

Navigate to the Data Analysis Criteria page by choosing **Data Analysis** under the Output section of the navigation panel and then choosing **Single Characteristic Line Graph** when the Data Analysis page displays.

Fill in the criteria as described in section 10.1.

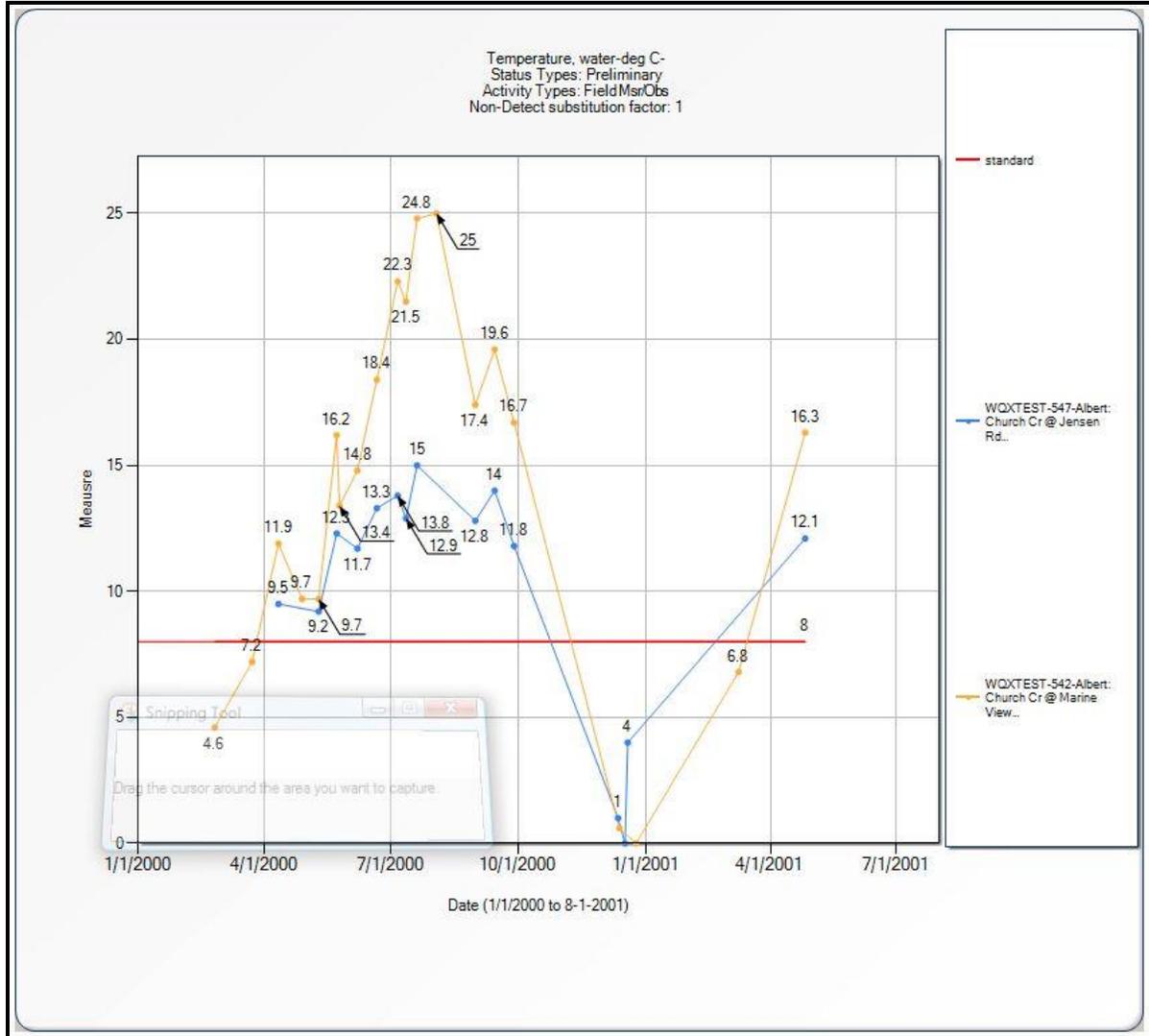
If you’d like the Y axis scale to be logarithmic, check the box next to “Y-Axis Scale Logarithmic”. This will “shrink” the scale in order to be able to show an extremely wide range of values in a reasonably-sized graph.

Y-Axis Scale Logarithmic

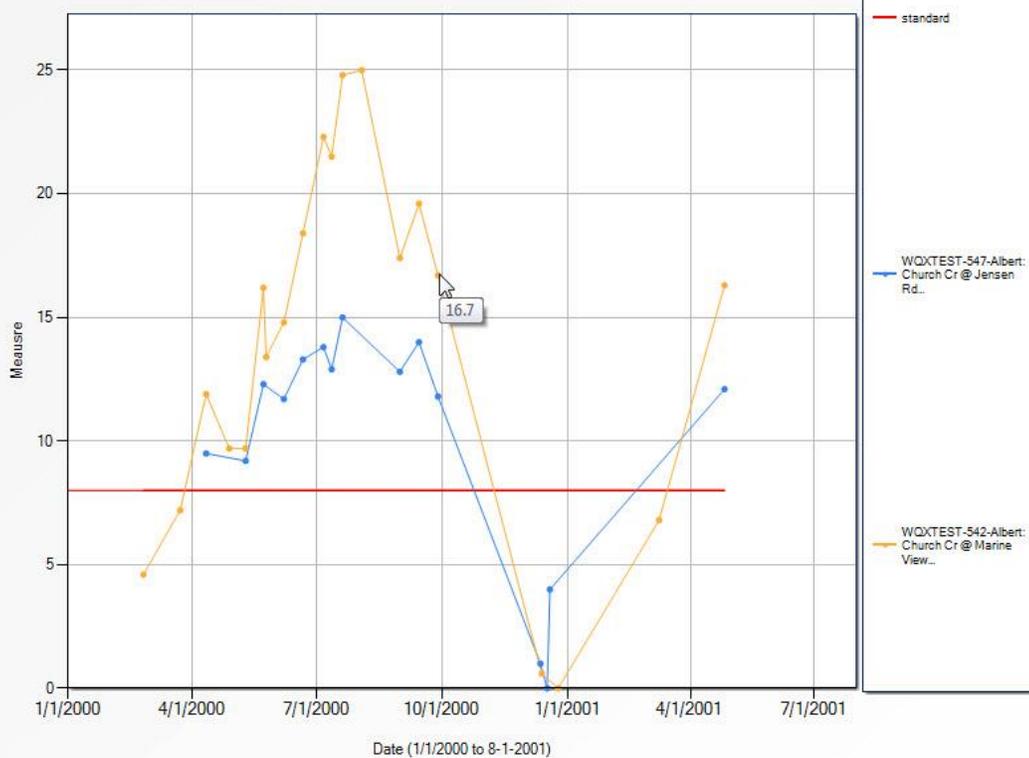
Decide whether/how you’d like the datapoints displayed, as described in section 10.2.

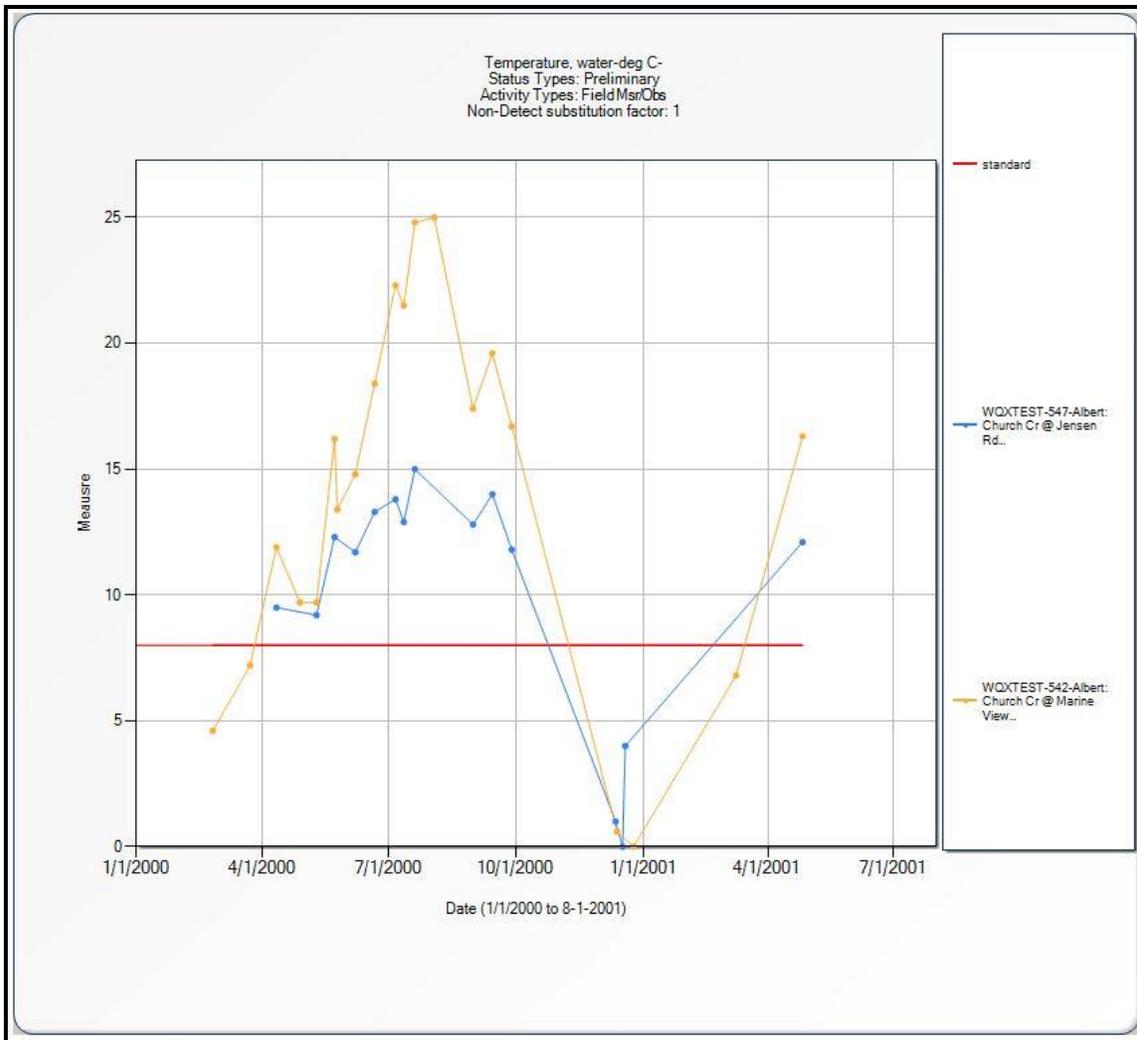
Select the **Continue** button.

The system will display the graph.



Temperature, water-deg C-
Status Types: Preliminary
Activity Types: Field Msr/Obs
Non-Detect substitution factor: 1





10.2.2 Single Characteristic Means Bar Chart

Overview

The system provides the capability to generate a bar chart of the mean values (arithmetic average and geometric average) during a given range of time for a single characteristic at one or more locations (with each location listed on the X-axis). This “Single Characteristic Means Bar Chart” is based on result data matching the search criteria that you provide. If a standard value is supplied, the system will graph the standard as a horizontal line.

In mathematics and statistics, the arithmetic mean (or simply the mean) of a list of numbers is the sum of all the members of the list divided by the number of items in the list.

The geometric mean, in mathematics, is a type of mean or average, which indicates the central tendency or typical value of a set of numbers. It is similar to the arithmetic mean, which is what most people think of with the word "average," except that instead of adding the set of numbers and then dividing the sum by the count of numbers in the set, n , the

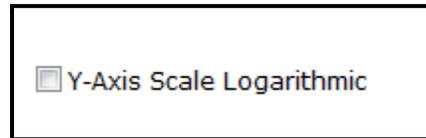
numbers are multiplied and then the n th root of the resulting product is taken. For instance, the geometric mean of two numbers, say 2 and 8, is just the square root (i.e., the second root) of their product, 16, which is 4. As another example, the geometric mean of 1, $\frac{1}{2}$, and $\frac{1}{4}$ is the cube root (i.e., the third root) of their product (0.125), which is $\frac{1}{2}$.

Step-by-Step Instructions

Navigate to the Data Analysis Criteria page by choosing **Data Analysis** under the Output section of the navigation panel and then choosing **Single Characteristic Means Bar Chart** when the Data Analysis page displays.

Fill in the criteria as described in section 10.1.

If you'd like the Y axis scale to be logarithmic, check the box next to "Y-Axis Scale Logarithmic". This will "shrink" the scale in order to be able to show an extremely wide range of values in a reasonably-sized graph.

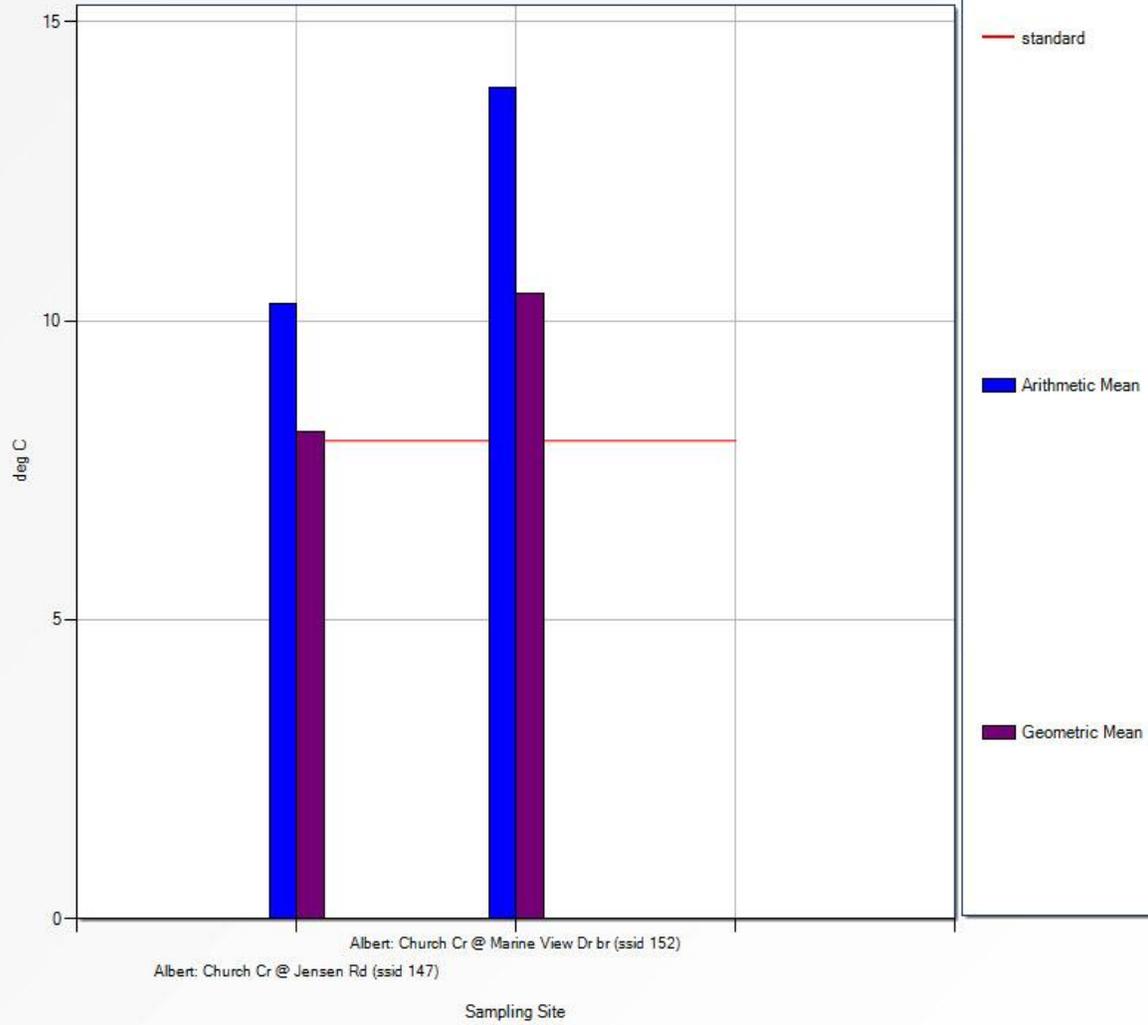


Y-Axis Scale Logarithmic

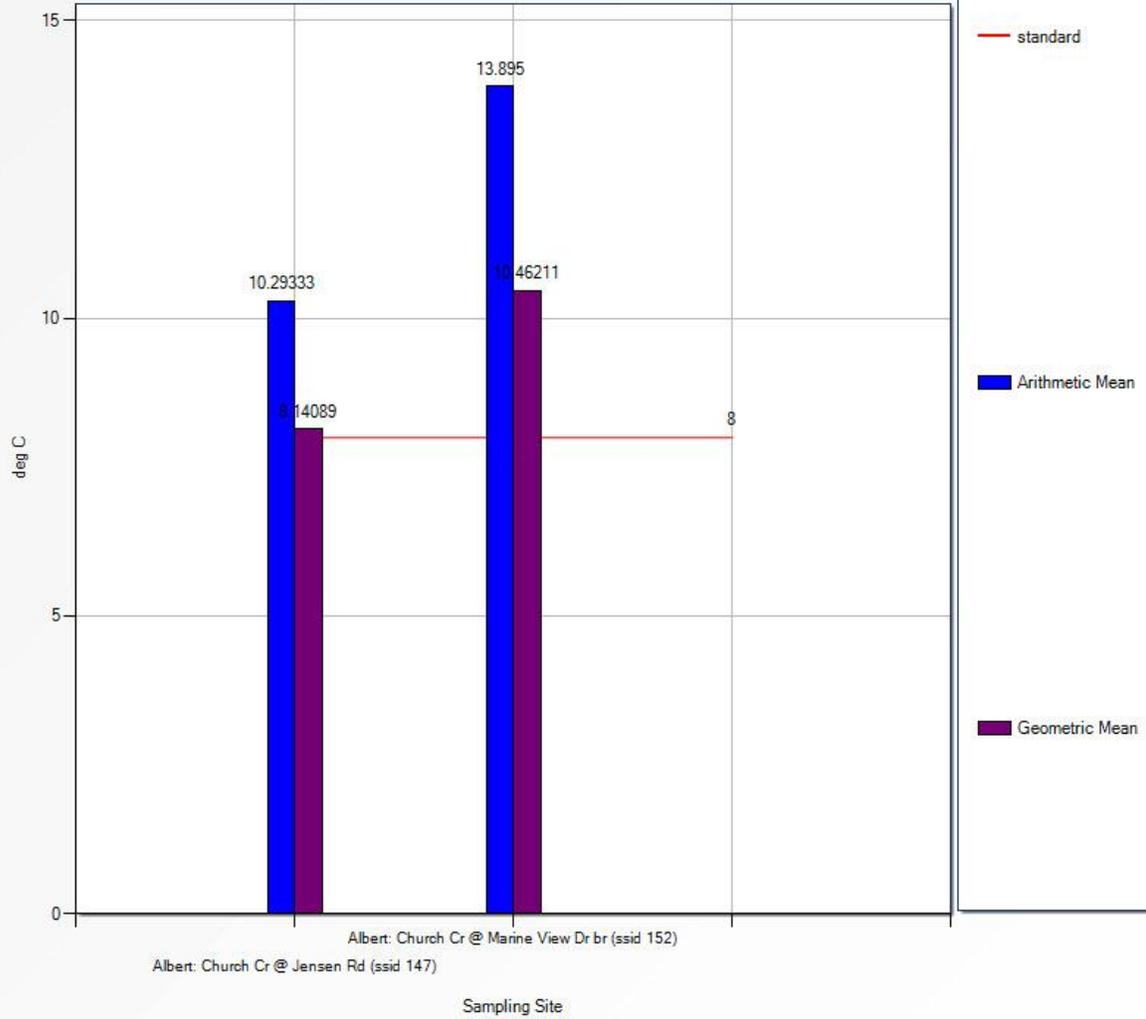
Decide whether/how you'd like the datapoints displayed, as described in section 10.2.

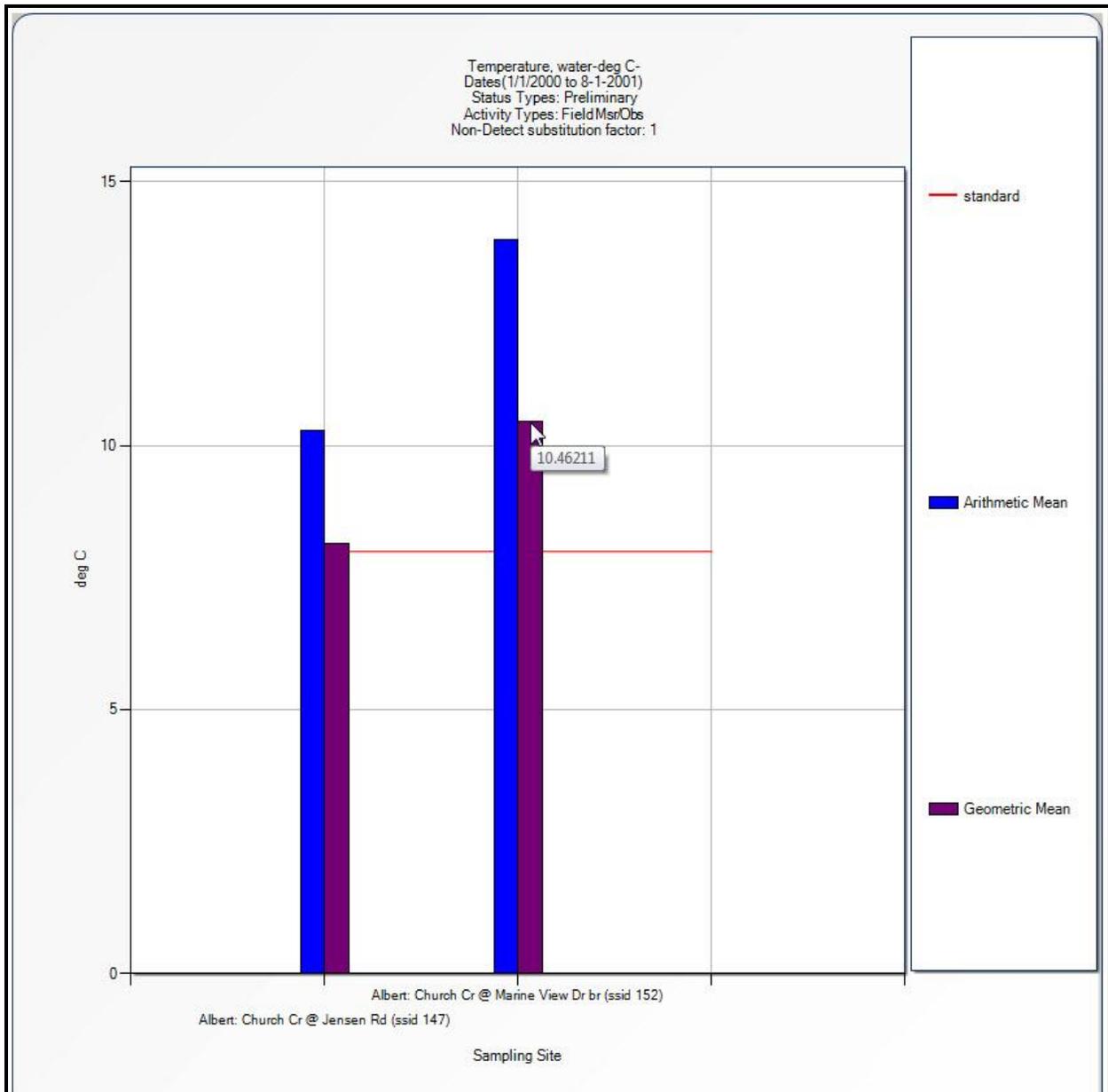
Select **Continue**. The system will display the graph.

Temperature, water-deg C-
Dates(1/1/2000 to 8-1-2001)
Status Types: Preliminary
Activity Types: FieldMsrObs
Non-Detect substitution factor: 1



Temperature, water-deg C-
Dates(1/1/2000 to 8-1-2001)
Status Types: Preliminary
Activity Types: FieldMsrObs
Non-Detect substitution factor: 1





10.2.3 Single Characteristic Cumulative Frequency Graph

Overview

The system provides the capability to generate an ogive curve depicting the frequency of data that is within a class accumulated with the frequencies of the lower classes.

Step-by-Step Instructions

Navigate to the Data Analysis Criteria page by choosing **Data Analysis** under the Output section of the navigation panel and then choosing **Single Characteristic Cumulative Frequency Graph** when the Data Analysis page displays.

Fill in the criteria as described in section 10.1.

If you wish to force the system to use a specific number of classes, fill in the Number of Classes field. If you leave this field empty, the system will automatically calculate the optimal number of classes based on rounding $1 + 3.3 * \log n$ where n is the number of values.

If you wish plot the relative cumulative frequency based on relative percentages, rather than on actual values the check the Plot as Relative Cumulative Frequency (%) box.

If you would like to show the frequency distribution of the data as a histogram beneath the cumulative curve, check the Show Histogram box.

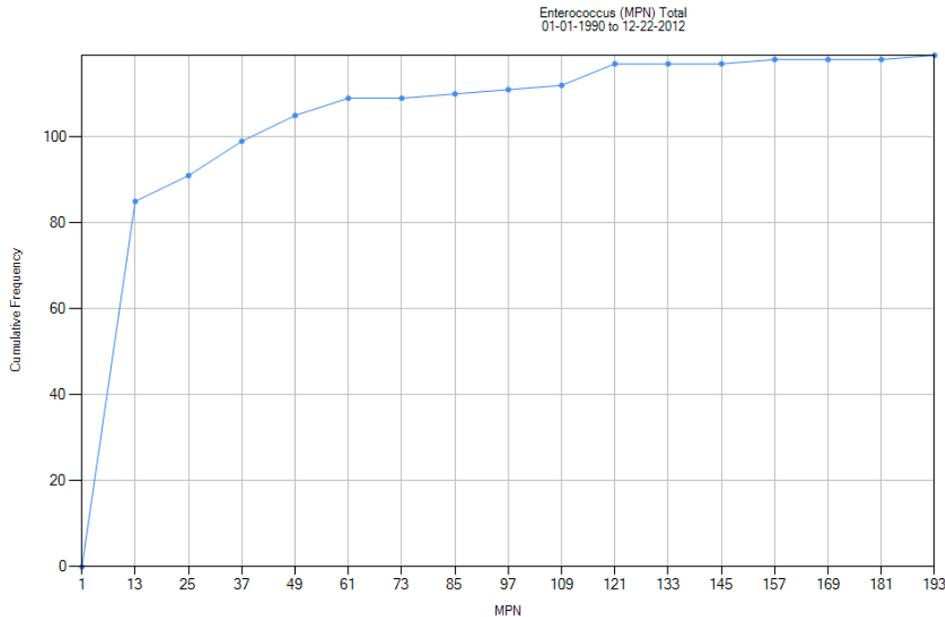
Number of classes: (Leave empty to automatically calculate optimal number of classes.)

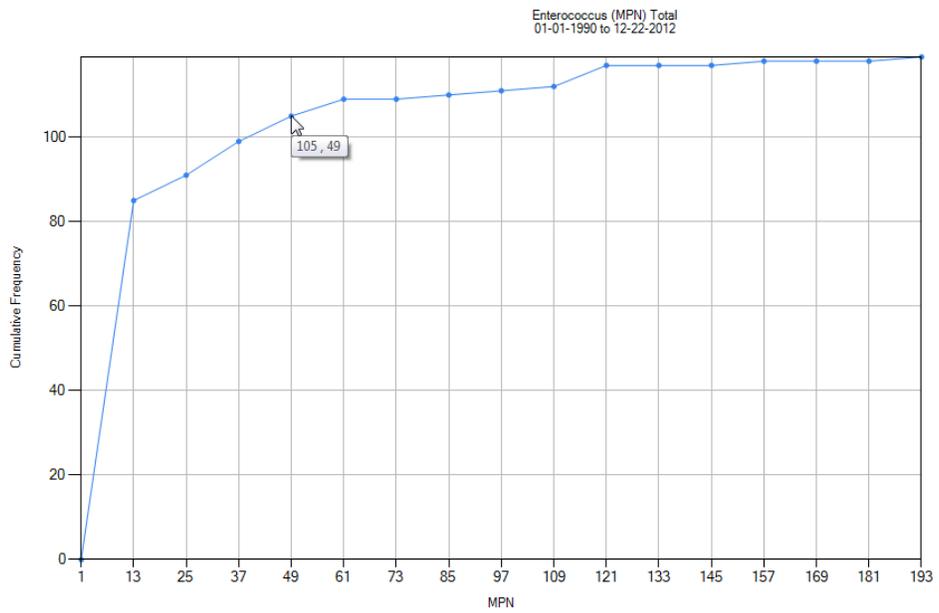
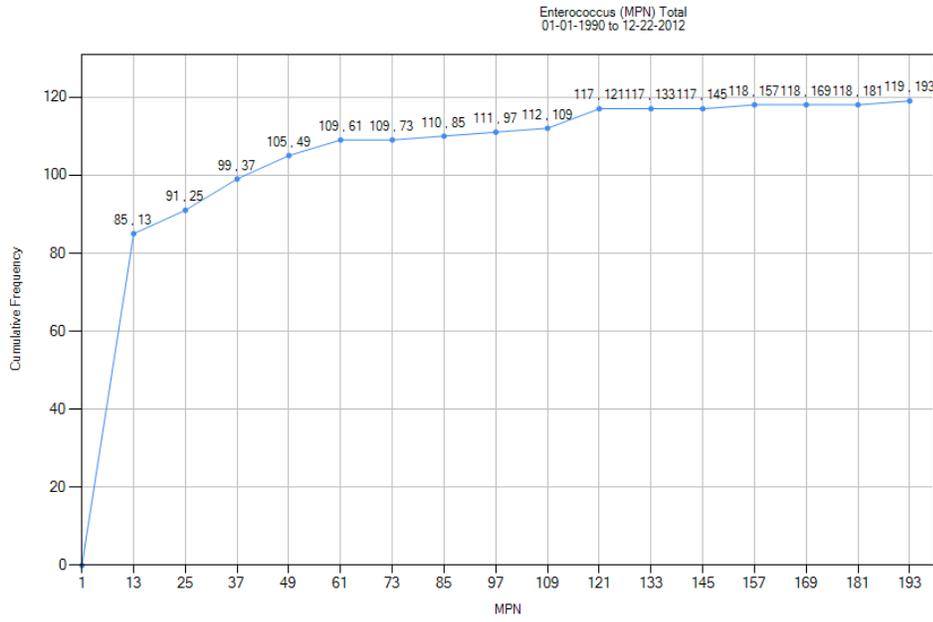
Plot as Relative Cumulative Frequency (%)

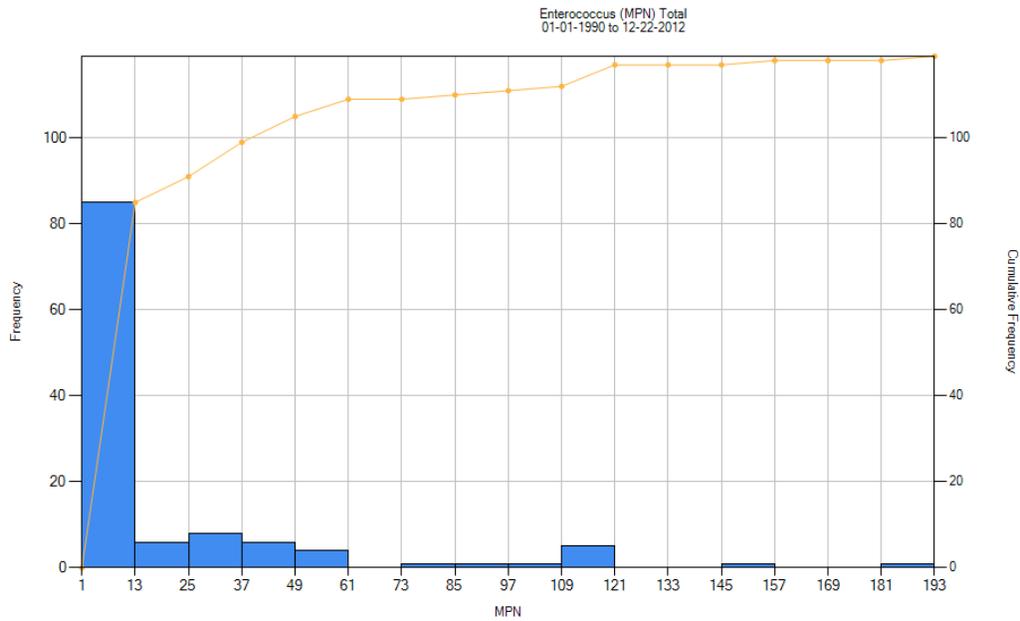
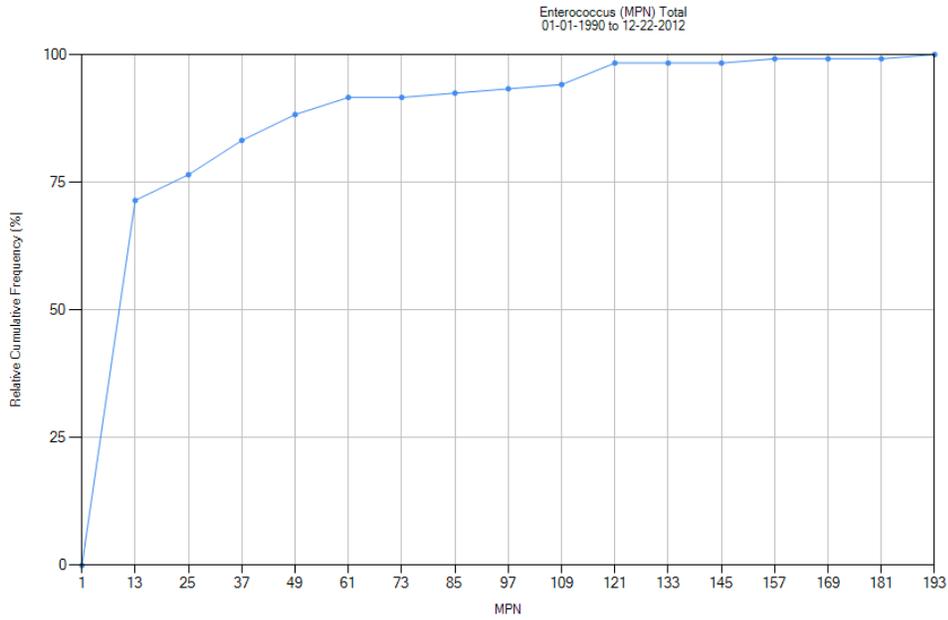
Show Histogram

Decide whether/how you'd like the datapoints displayed, as described in section 10.2.

Select **Continue**. The system will display the graph.







10.2.4 Multiple Characteristic Line Graph

Overview

The Multiple Characteristic Line Graph Criteria page allows you to enter search criteria for generating a graph that shows one line per select characteristic at the specified monitoring location over time.

Step-by-Step Instructions

Navigate to the Data Analysis Criteria page by choosing **Data Analysis** under the Output section of the navigation panel and then choosing **Multiple Characteristic Line Graph** when the Data Analysis page displays.

Fill in the criteria as described in section 10.1.

Select the number of scales (1 or 2) that you would like displayed on the graph. Number of scales is defaulted to 1 and will plot all data points against the Y1 axis. When number of scales is set to 1, any number of unit types may be selected and the units will be shown with the characteristic in the legend. When number of scales is set to 2, two unique unit types are required; data points will be plotted on the Y1 axis for the first unit type selected and the Y2 axis for the second unit type.

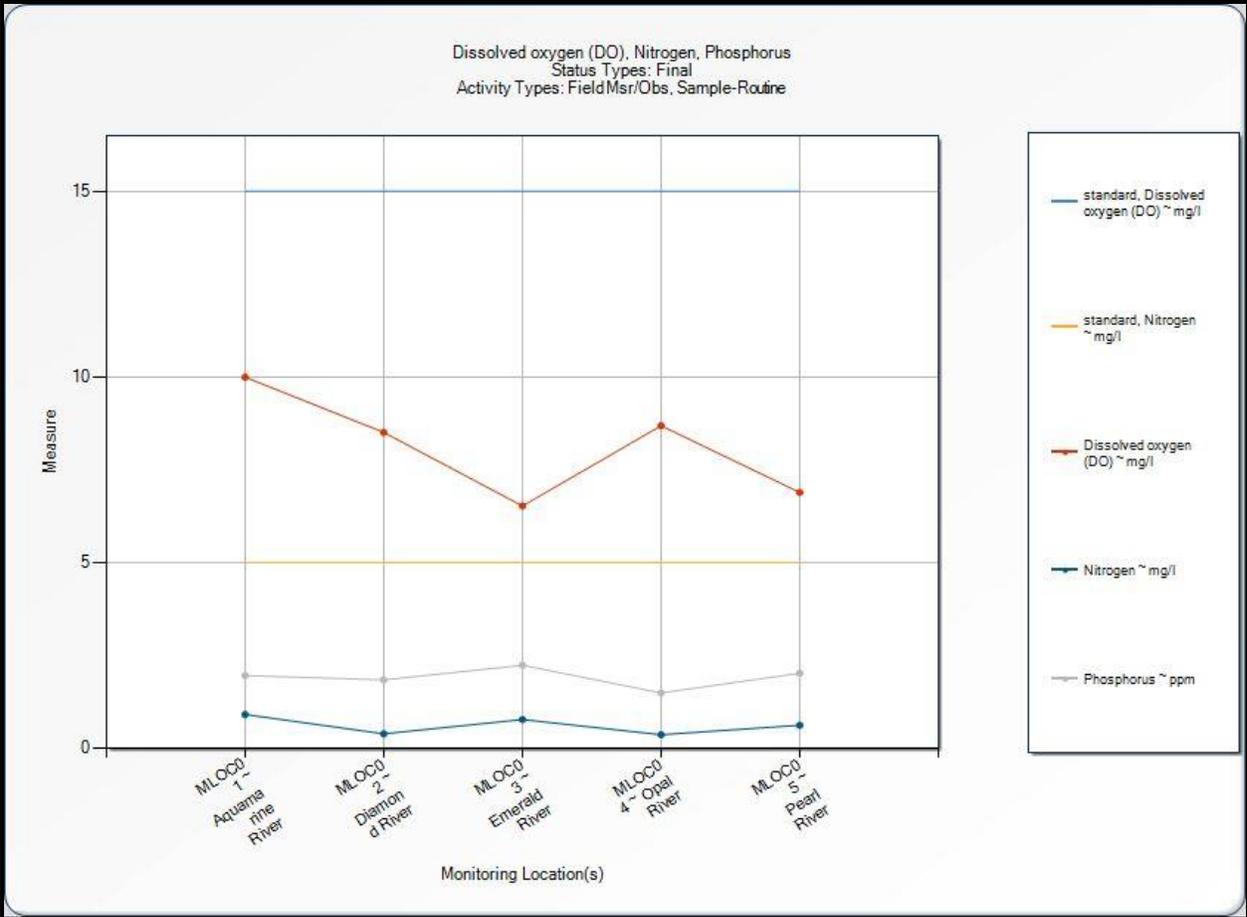
Number of Scales:

If you'd like the Y axis scale to be logarithmic, check the box next to "Y-Axis Scale Logarithmic". This will "shrink" the scale in order to be able to show an extremely wide range of values in a reasonably-sized graph. If Number of Scales is set to 2, both scales will be logarithmic.

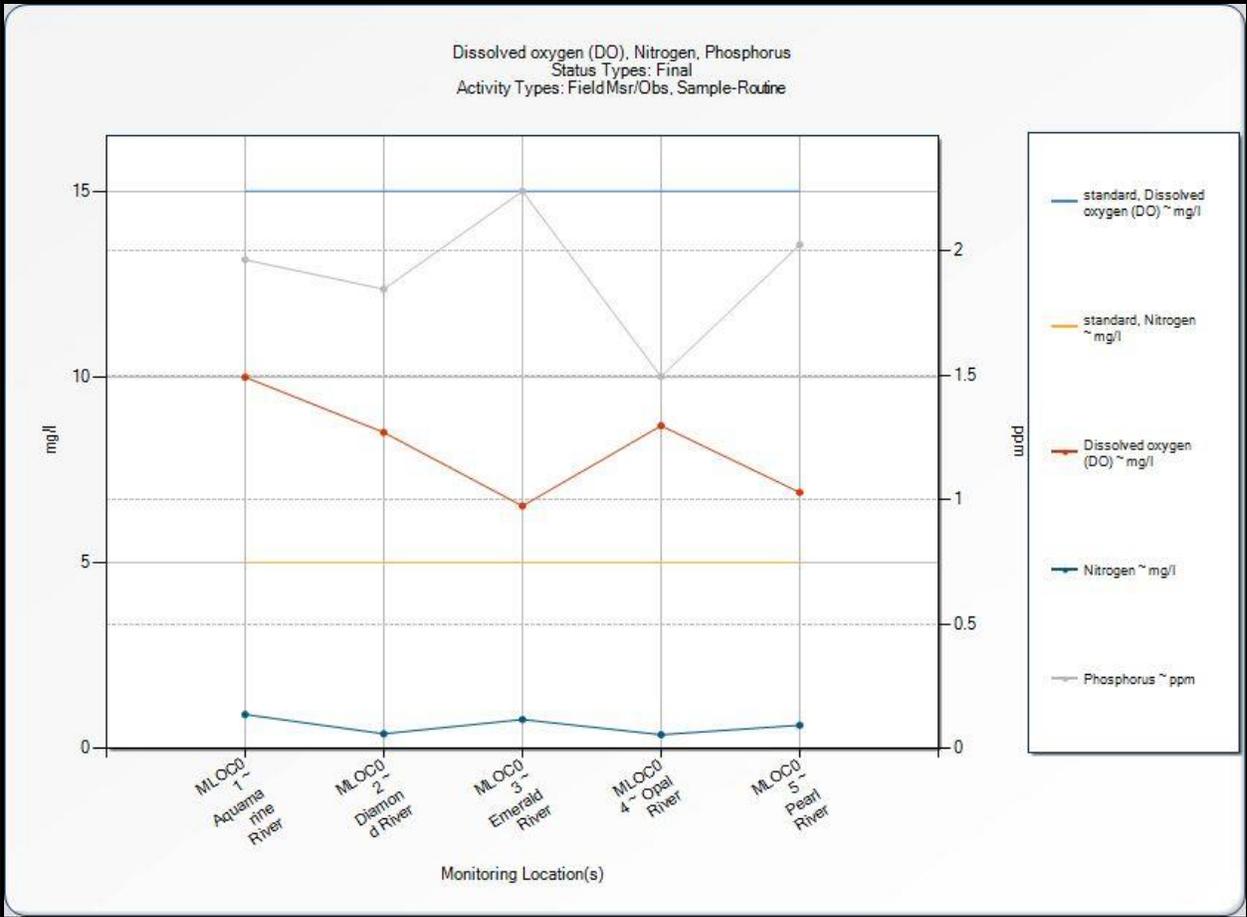
Y-Axis Scale Logarithmic

Decide whether/how you'd like the datapoints displayed, as described in section 10.2.

Select **Continue**. The system will display the graph.

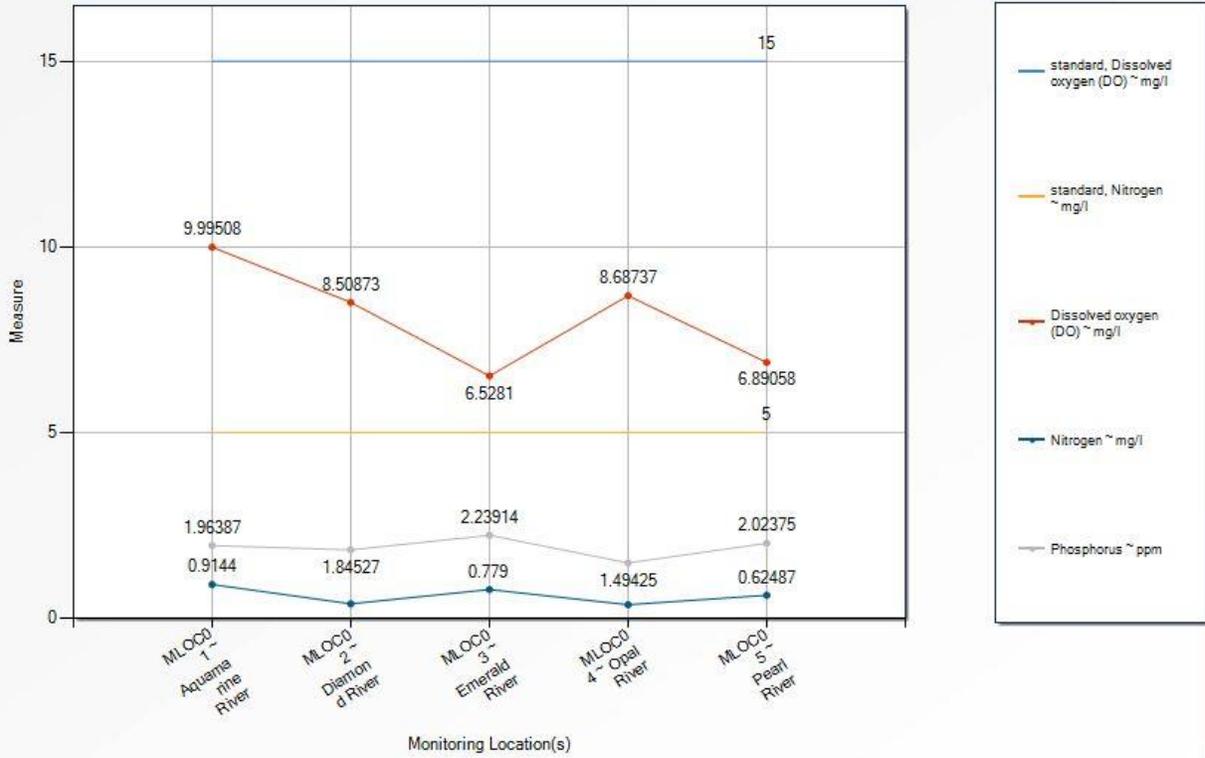


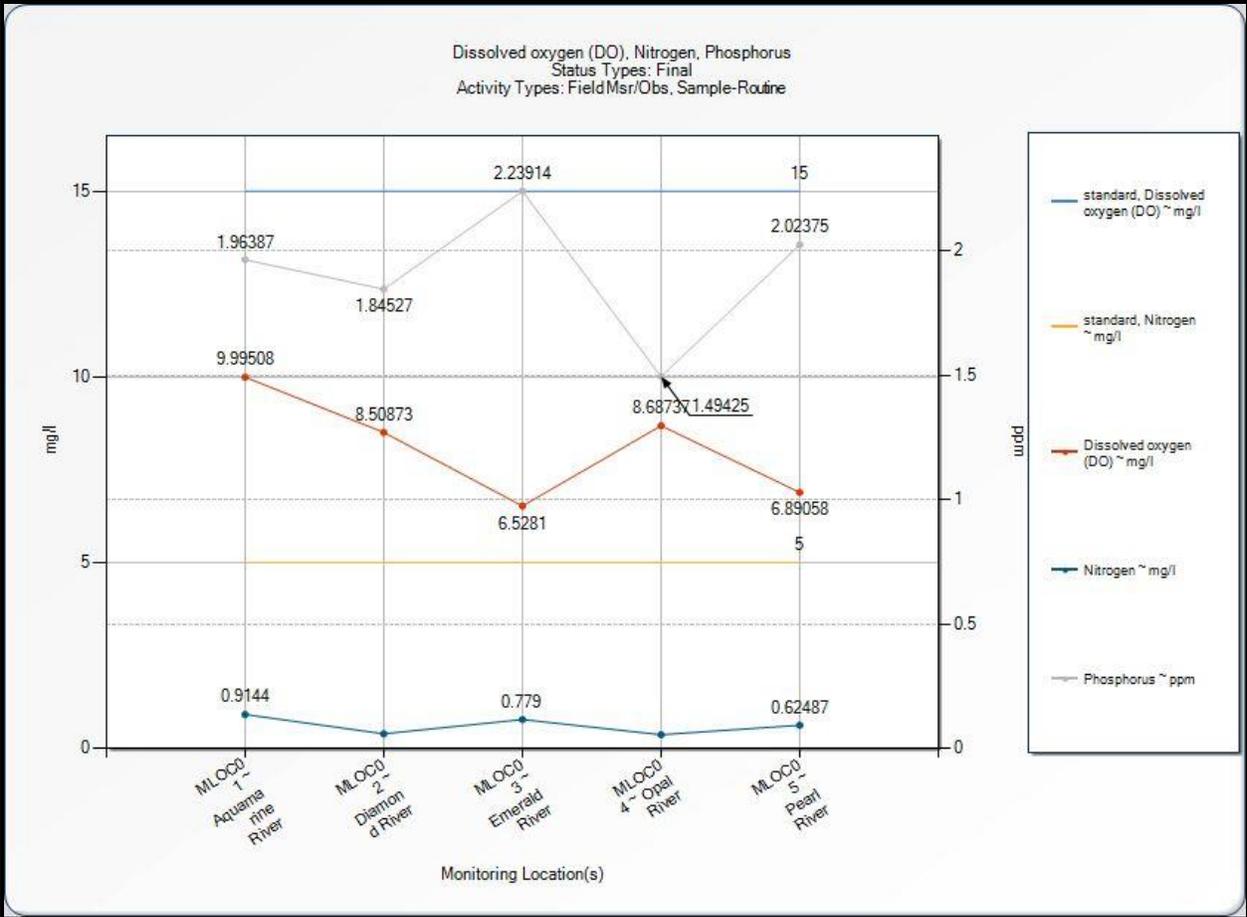
(one scale)



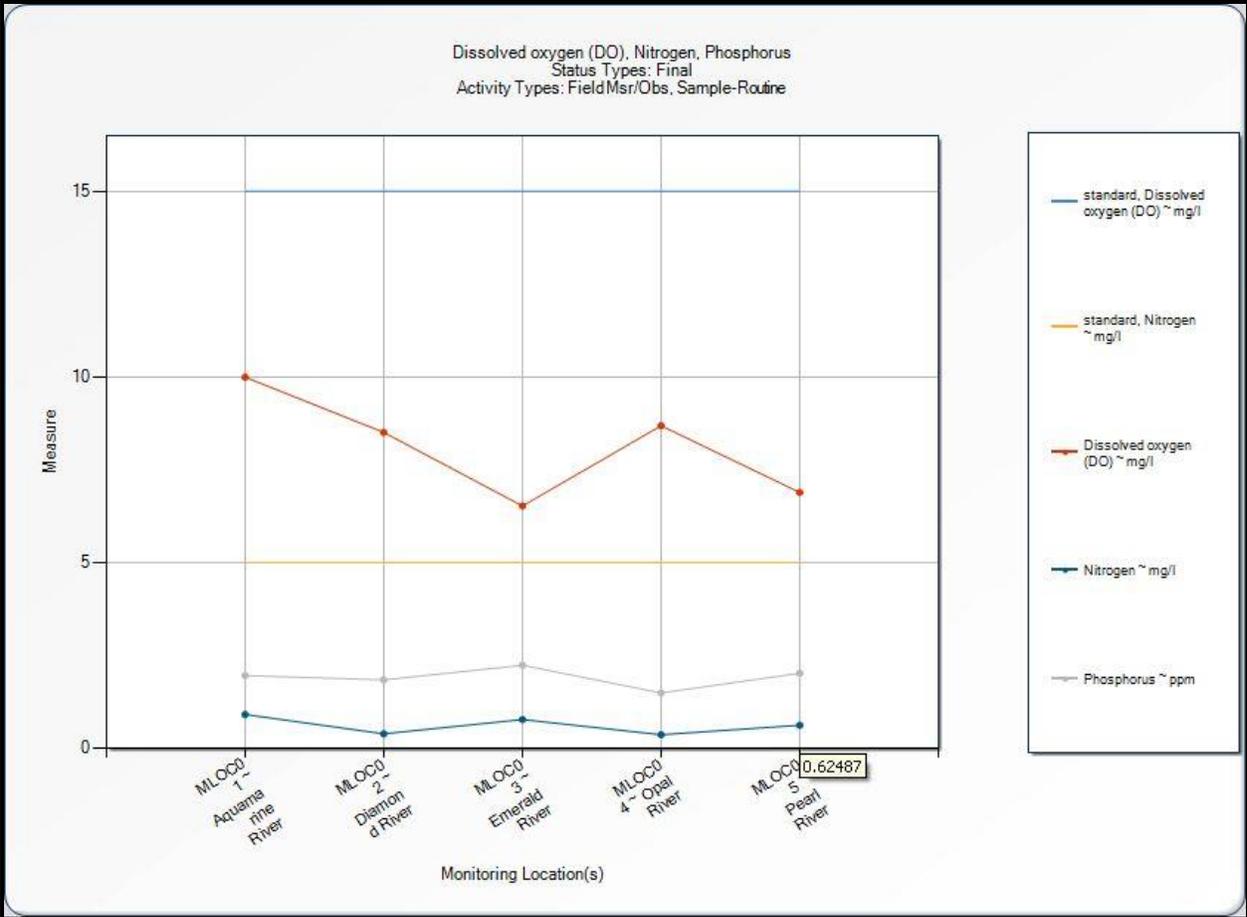
(two scales)

Dissolved oxygen (DO), Nitrogen, Phosphorus
 Status Types: Final
 Activity Types: Field Msr/Obs, Sample-Routine

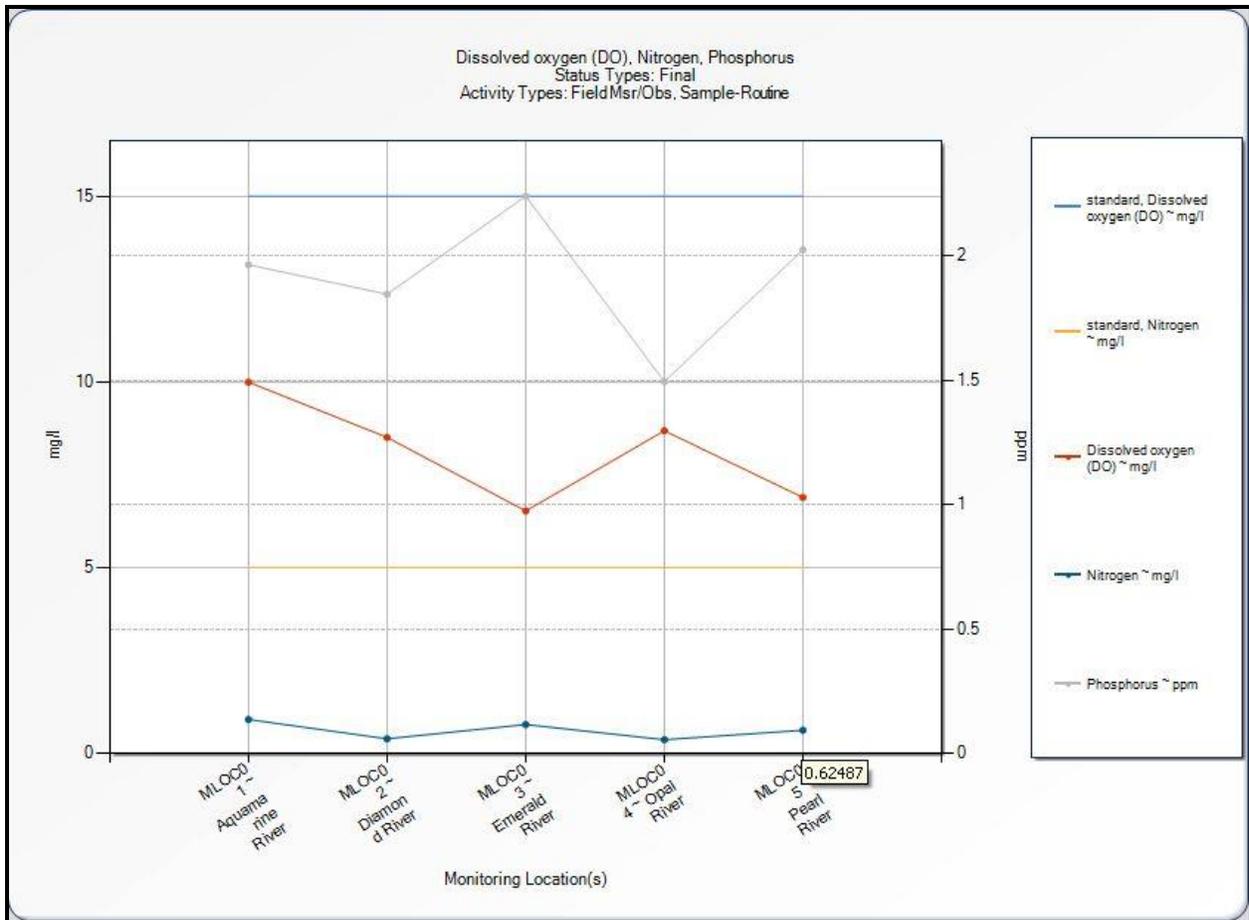




(two scales)



(one scale)



(two scales)

10.2.5 Multiple Characteristic Mean Value Line Graph

Overview

The Multiple Characteristic Mean Value Line Graph Criteria page allows you to enter search criteria for generating a graph that shows one line per selected characteristic averaged at each selected monitoring location for the specified date range.

Step-by-Step Instructions

Navigate to the Data Analysis Criteria page by choosing **Data Analysis** under the Output section of the navigation panel and then choosing **Multiple Characteristic Mean Value Line Graph** when the Data Analysis page displays.

Fill in the criteria as described in section 10.1.

NOTE: This graph does not permit the graphing of thresholds. Therefore, you cannot recall a threshold group nor manually enter thresholds in this criteria page.

Select the number of scales (1 or 2) that you would like displayed on the graph. Number of scales is defaulted to 1 and will plot all data points against the Y1 axis. When number of scales is set to 1, any number of unit types may be selected and the units will be shown

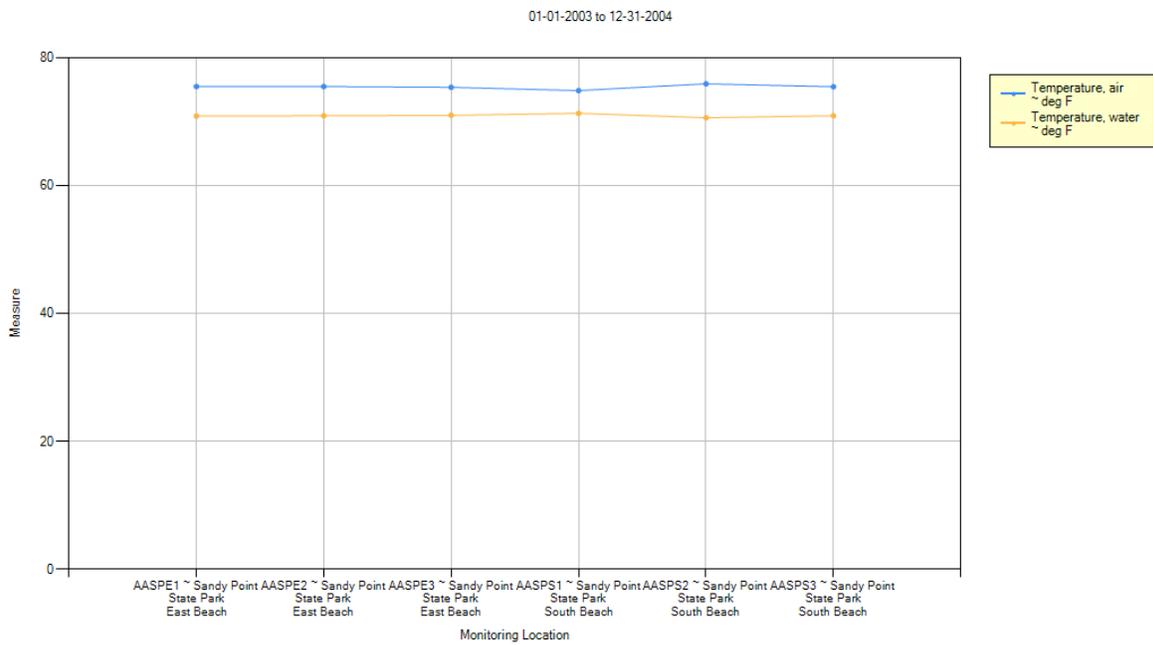
with the characteristic in the legend. When number of scales is set to 2, two unique unit types are required; data points will be plotted on the Y1 axis for the first unit type selected and the Y2 axis for the second unit type.

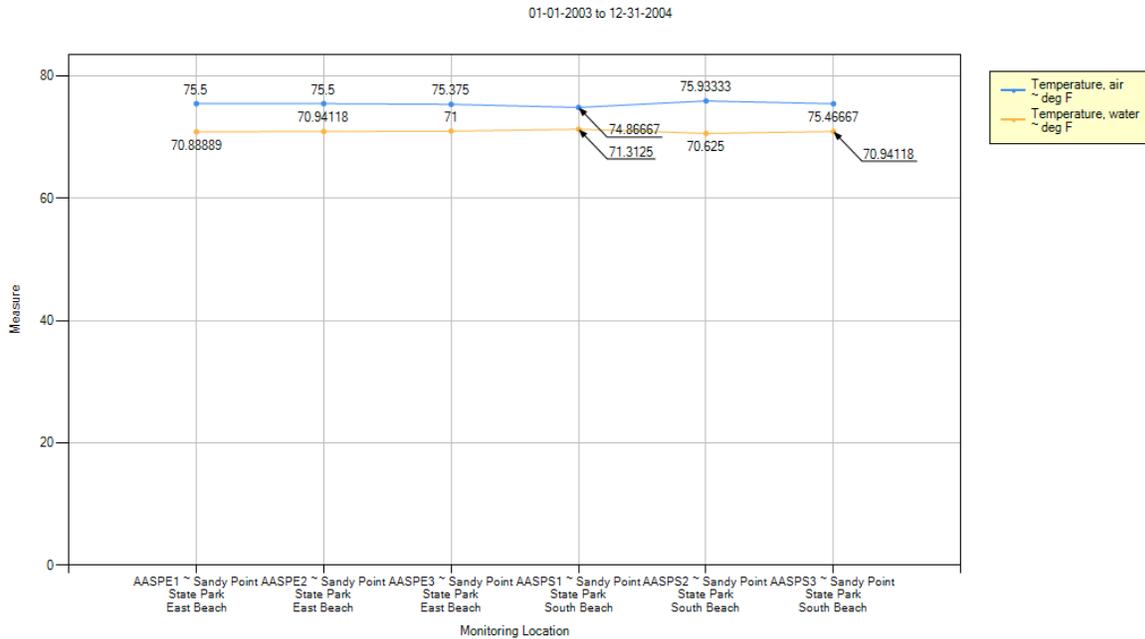
Number of Scales:

If you'd like the Y axis scale to be logarithmic, check the box next to "Y-Axis Scale Logarithmic". This will "shrink" the scale in order to be able to show an extremely wide range of values in a reasonably-sized graph. If Number of Scales is set to 2, both scales will be logarithmic.

Y-Axis Scale Logarithmic

Decide whether/how you'd like the datapoints displayed, as described in section 10.2. Select **Continue**. The system will display the graph.





10.2.6 Multiple Characteristic Mean Value Line & Bar Graph

Overview

The Multiple Characteristic Mean Value Line & Bar Graph Criteria page allows you to enter search criteria for generating a graph that shows one characteristic as a bar and remaining characteristics rendered as lines, all by Monitoring Location sites averaged over time.

Step-by-Step Instructions

Navigate to the Data Analysis Criteria page by choosing **Data Analysis** under the Output section of the navigation panel and then choosing **Multiple Characteristic Mean Value Line & Bar Graph** when the Data Analysis page displays.

Fill in the criteria as described in section 10.1.

NOTE: This graph does not permit the graphing of thresholds. Therefore, you cannot recall a threshold group nor manually enter thresholds in this criteria page.

In the list of characteristics, select the characteristics to be graphed and then select the one that should be displayed as a bar chart, rather than as a line.

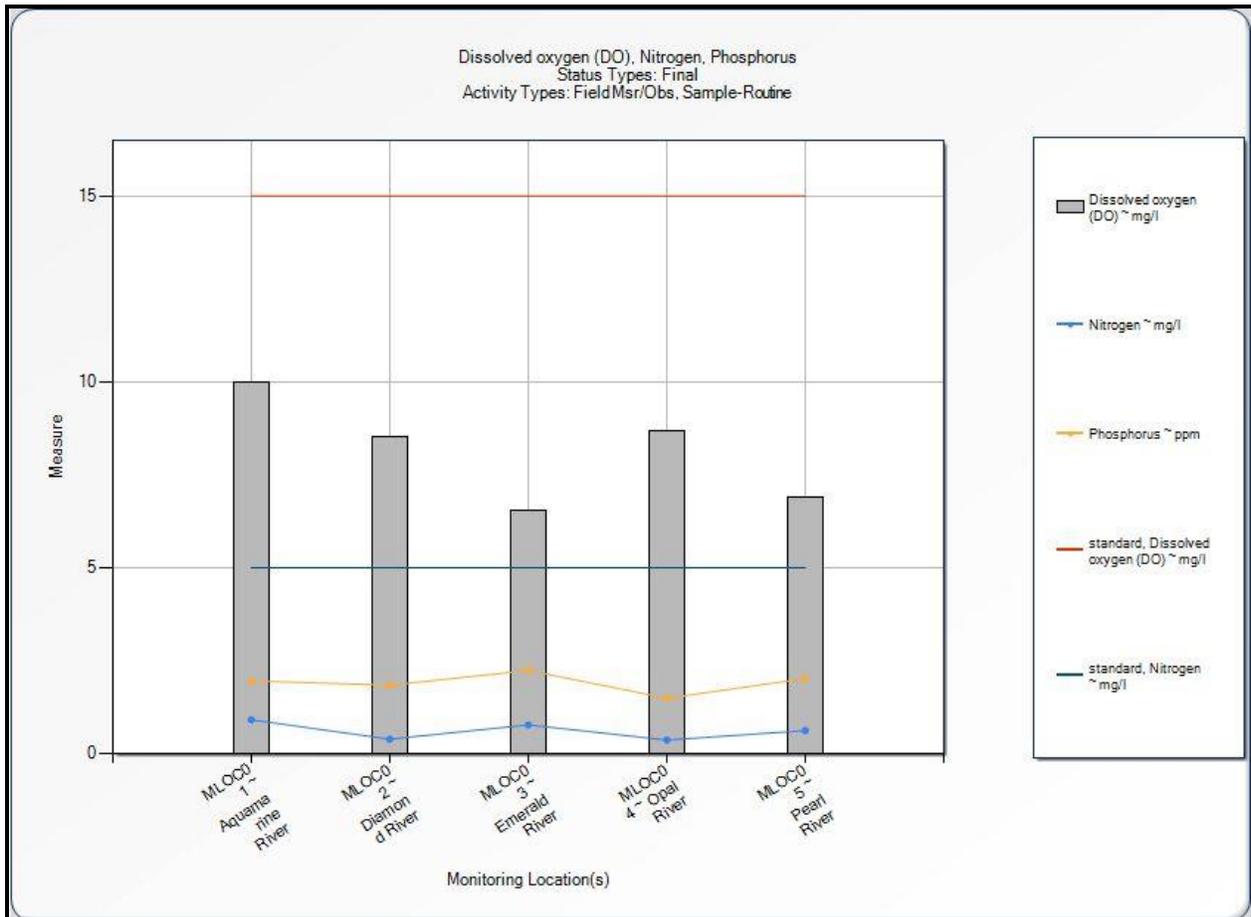
Select the number of scales (1 or 2) that you would like displayed on the graph. Number of scales is defaulted to 1 and will plot all data points against the Y1 axis. When number of scales is set to 1, any number of unit types may be selected and the units will be shown with the characteristic in the legend. When number of scales is set to 2, two unique unit types are required; data points will be plotted on the Y1 axis for the first unit type selected and the Y2 axis for the second unit type.

Number of Scales:

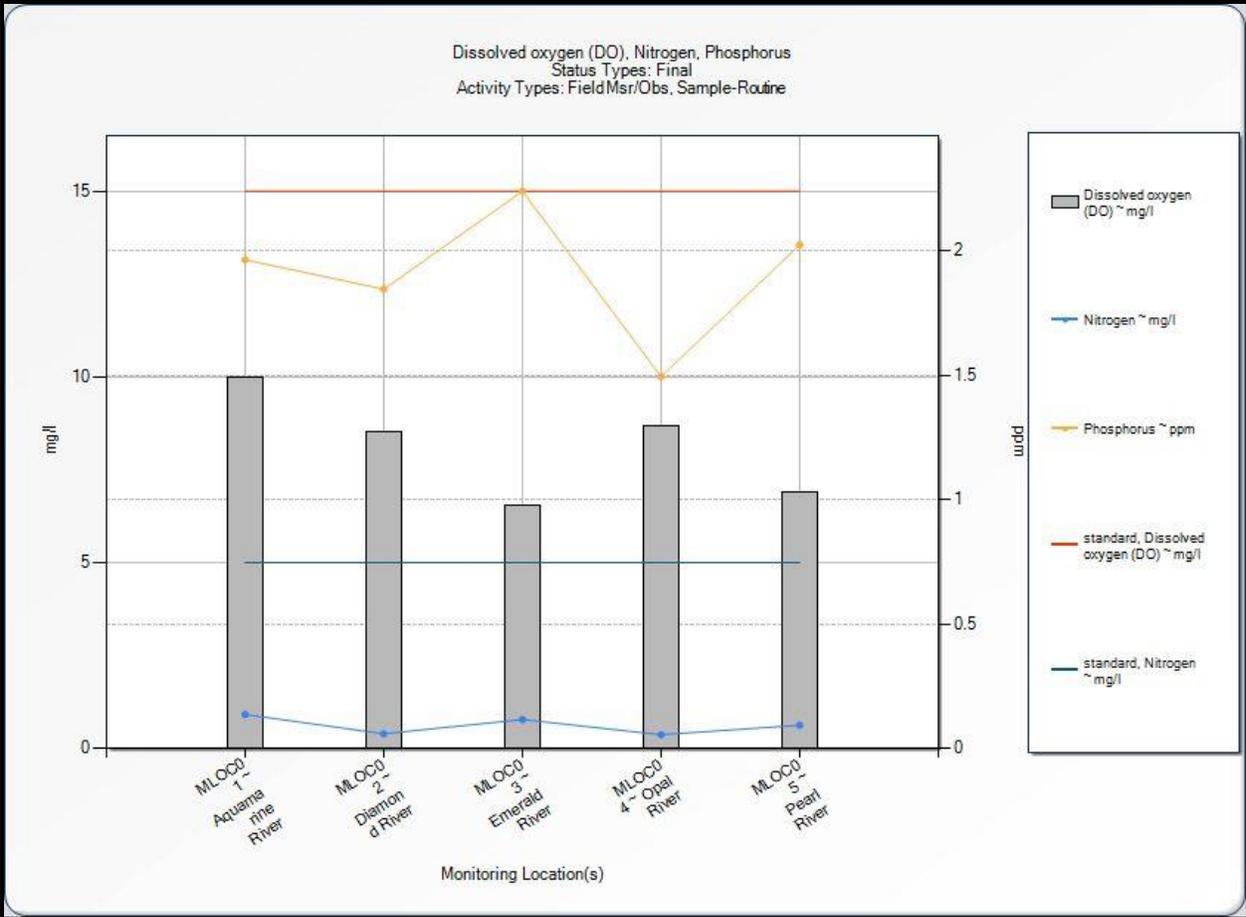
If you'd like the Y axis scale to be logarithmic, check the box next to "Y-Axis Scale Logarithmic". This will "shrink" the scale in order to be able to show an extremely wide range of values in a reasonably-sized graph. If Number of Scales is set to 2, both scales will be logarithmic.

Y-Axis Scale Logarithmic

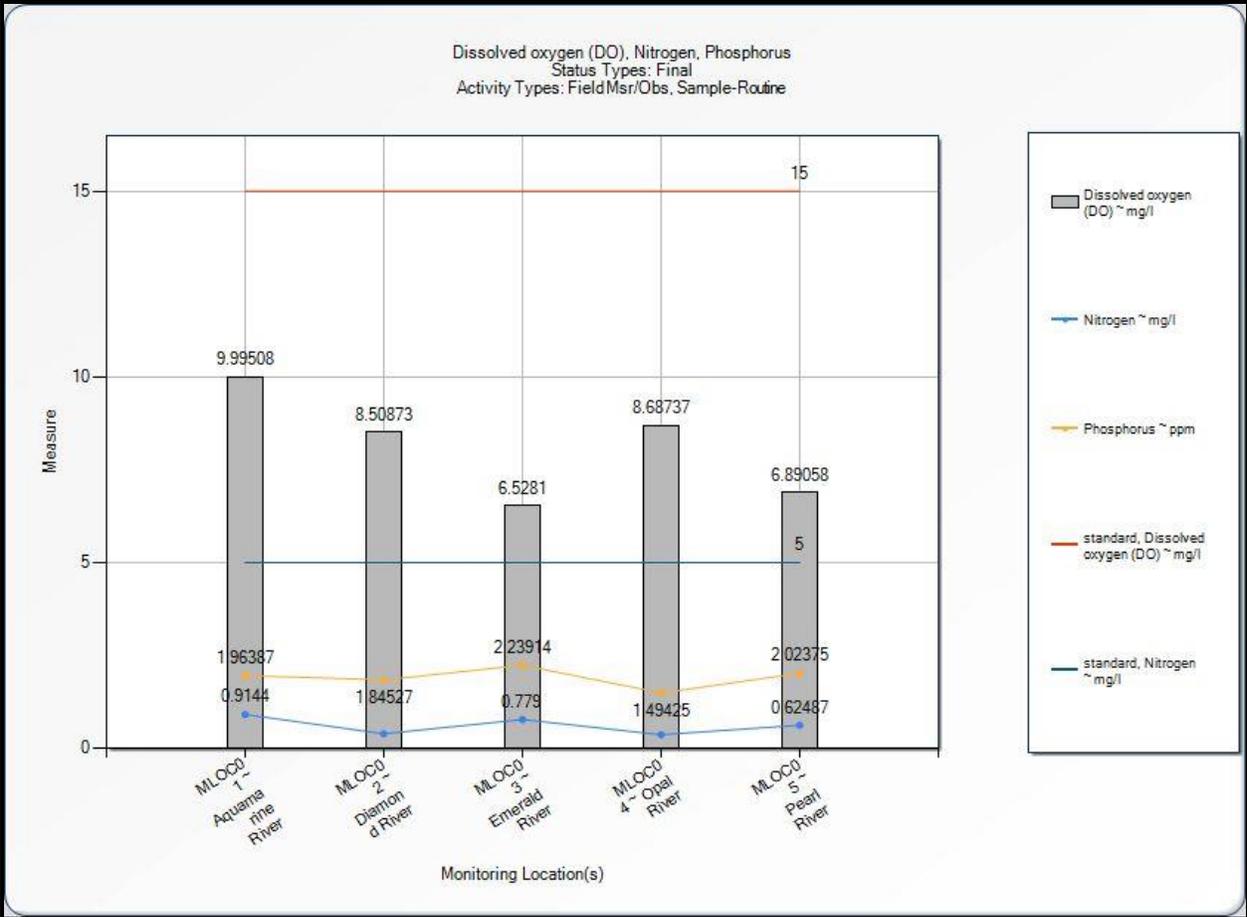
Decide whether/how you'd like the datapoints displayed, as described in section 10.2. Select **Continue**. The system will display the graph.



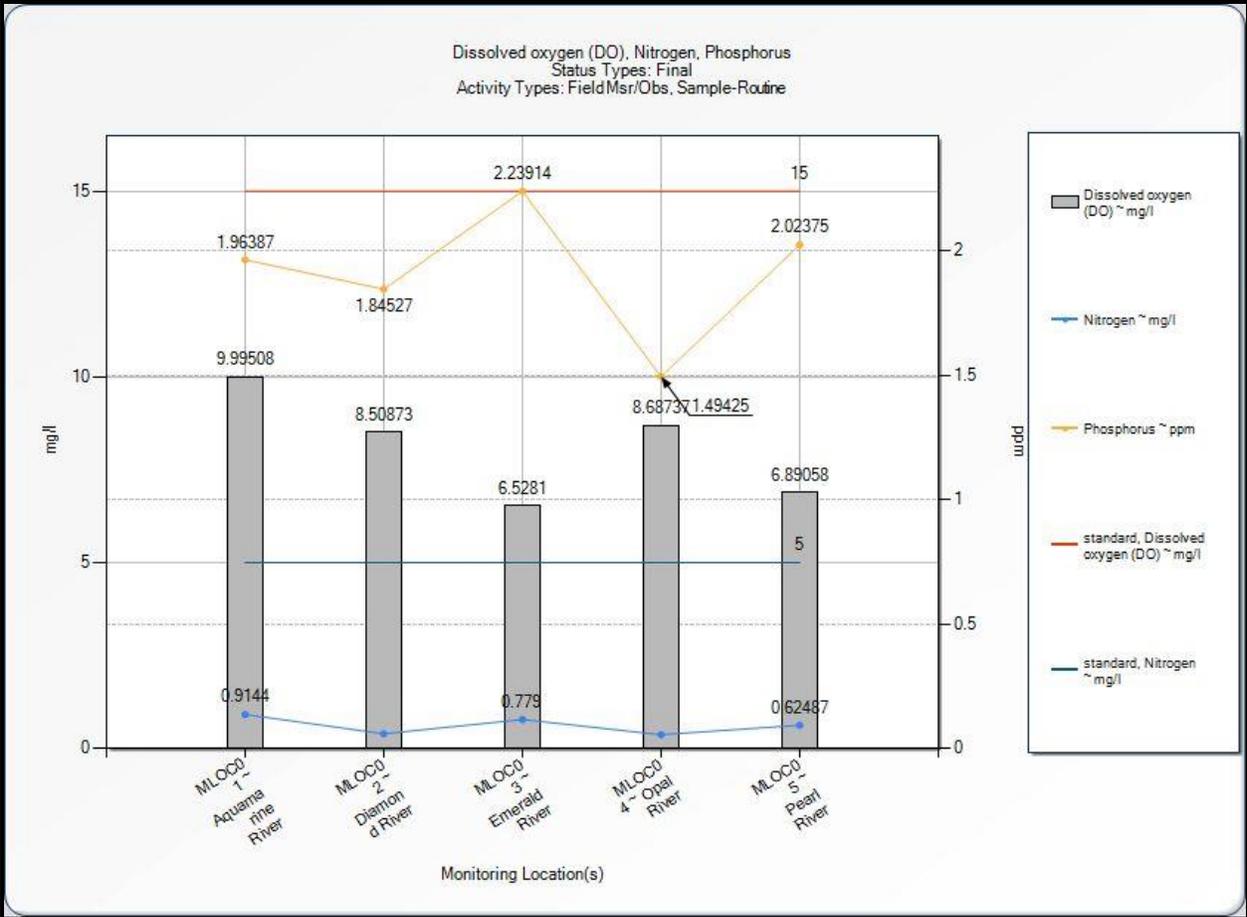
(one scale)



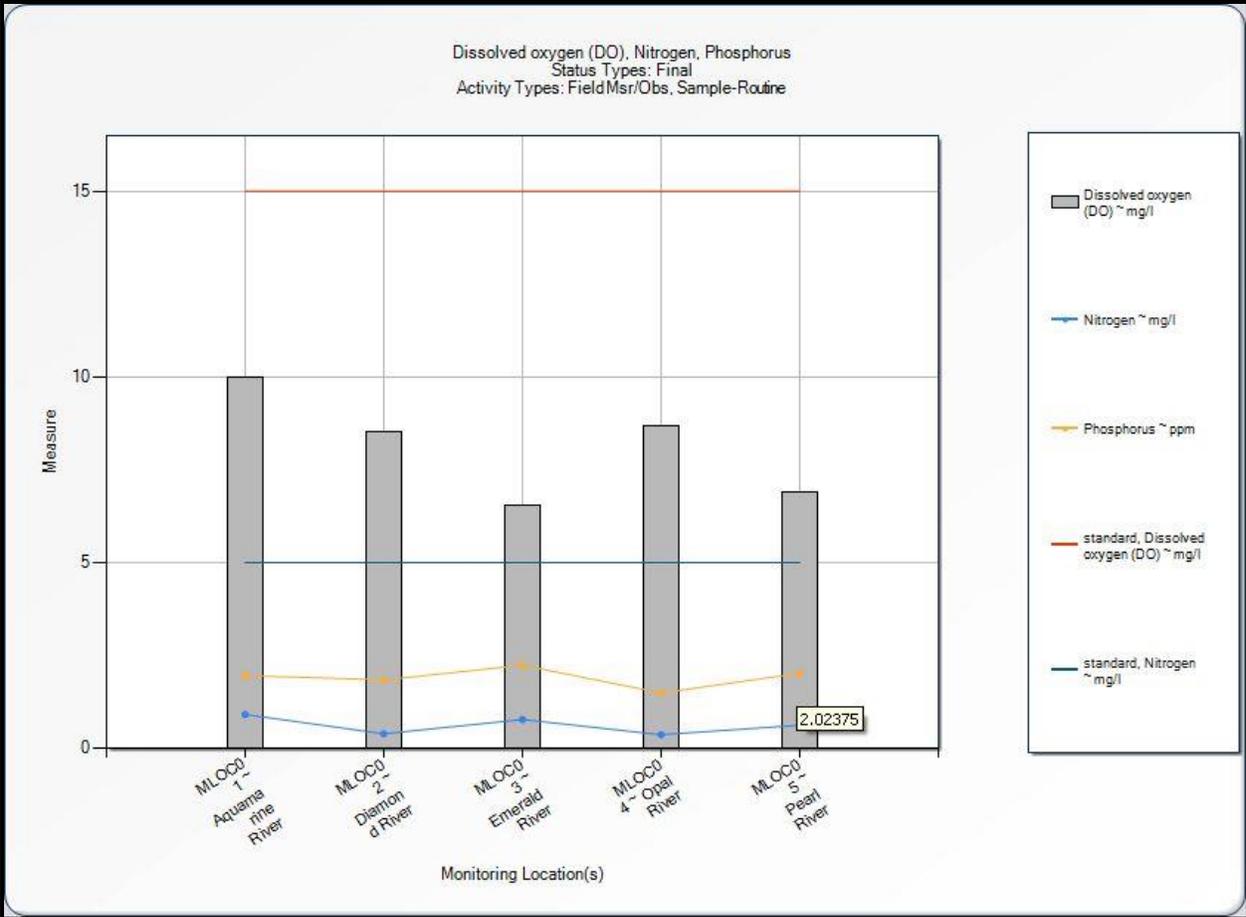
(two scales)



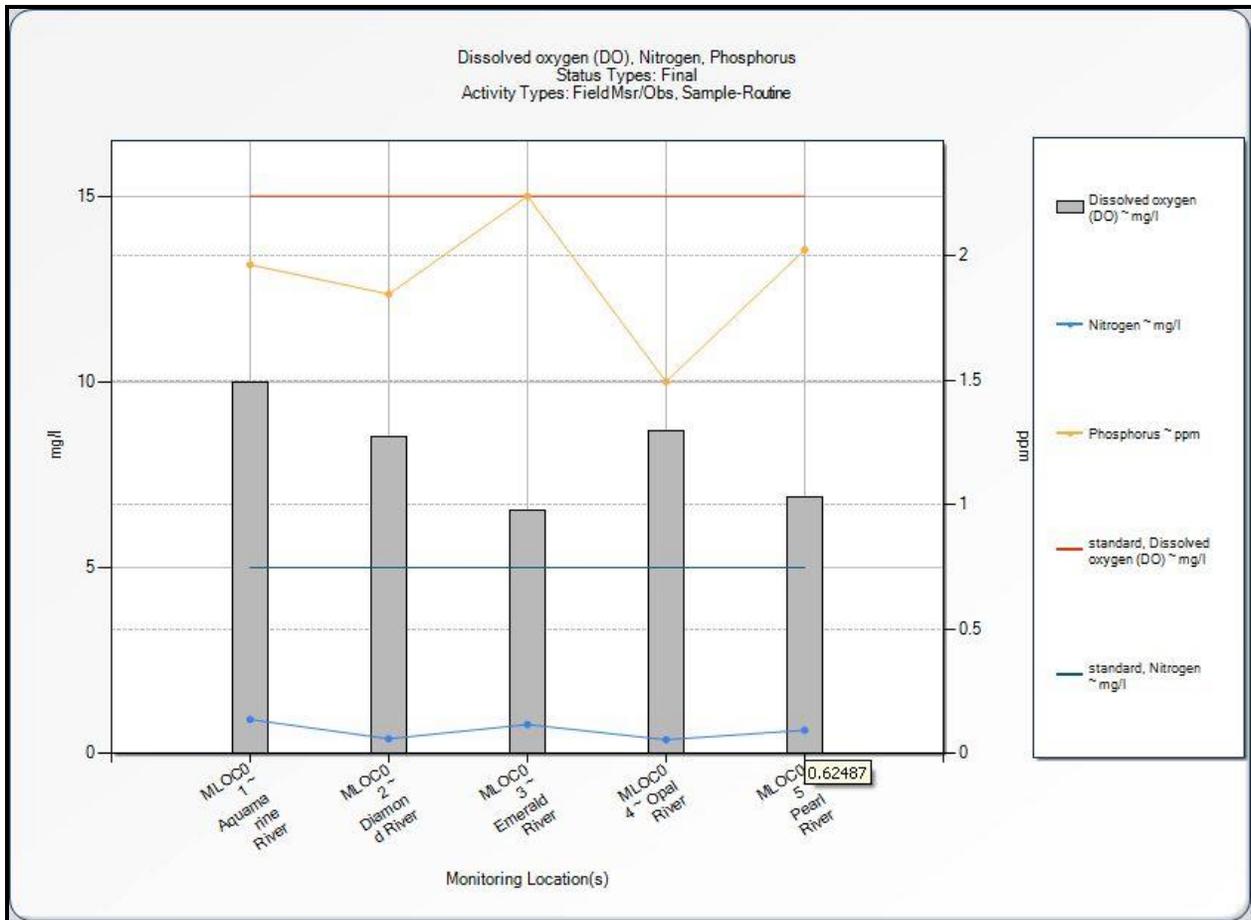
(one scale)



(two scales)



(one scale)



(two scales)

10.2.7 Box and Whiskers Plot

Overview

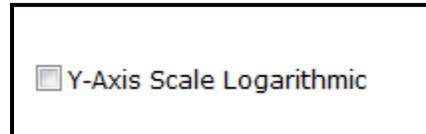
The Box and Whiskers Plot displays a Box and Whiskers Plot per location based on result data matching user provided search criteria. A box and whiskers plot is a way of visually summarizing the distribution of a data set at a monitoring location. It shows the 10th percentile and 90th percentile as the “whiskers”. The “box” is defined by the 25th and 75th percentiles. The mean and median are also shown inside the box as a solid and dashed line. If a standard value is supplied, the system will graph the standard as a horizontal line.

Step-by-Step Instructions

Navigate to the Data Analysis Criteria page by choosing **Data Analysis** under the Output section of the navigation panel and then choosing **Box and Whiskers Plot** when the Data Analysis page displays.

Fill in the criteria as described in section 10.1.

If you'd like the Y axis scale to be logarithmic, check the box next to "Y-Axis Scale Logarithmic". This will "shrink" the scale in order to be able to show an extremely wide range of values in a reasonably-sized graph.

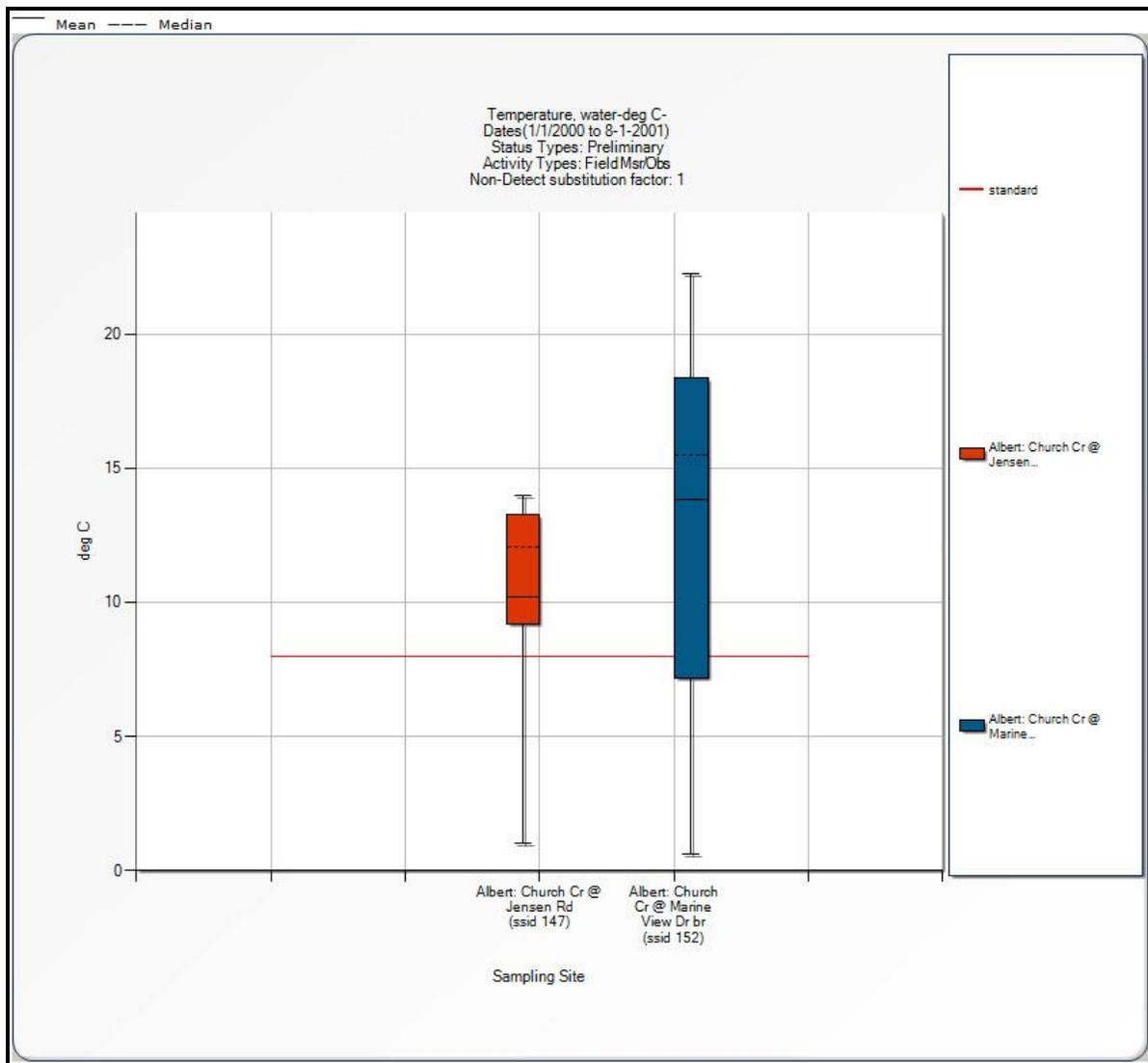


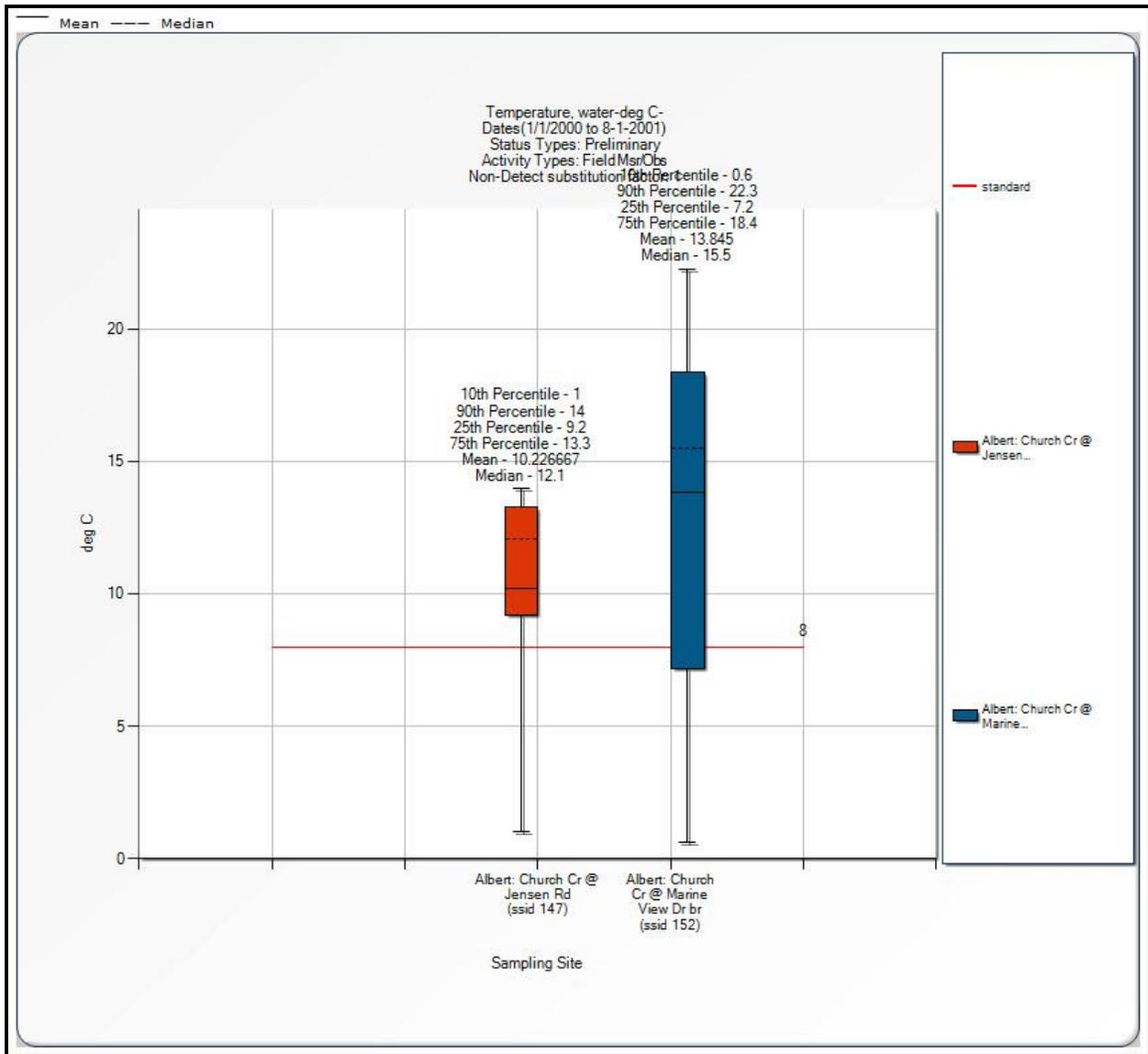
Y-Axis Scale Logarithmic

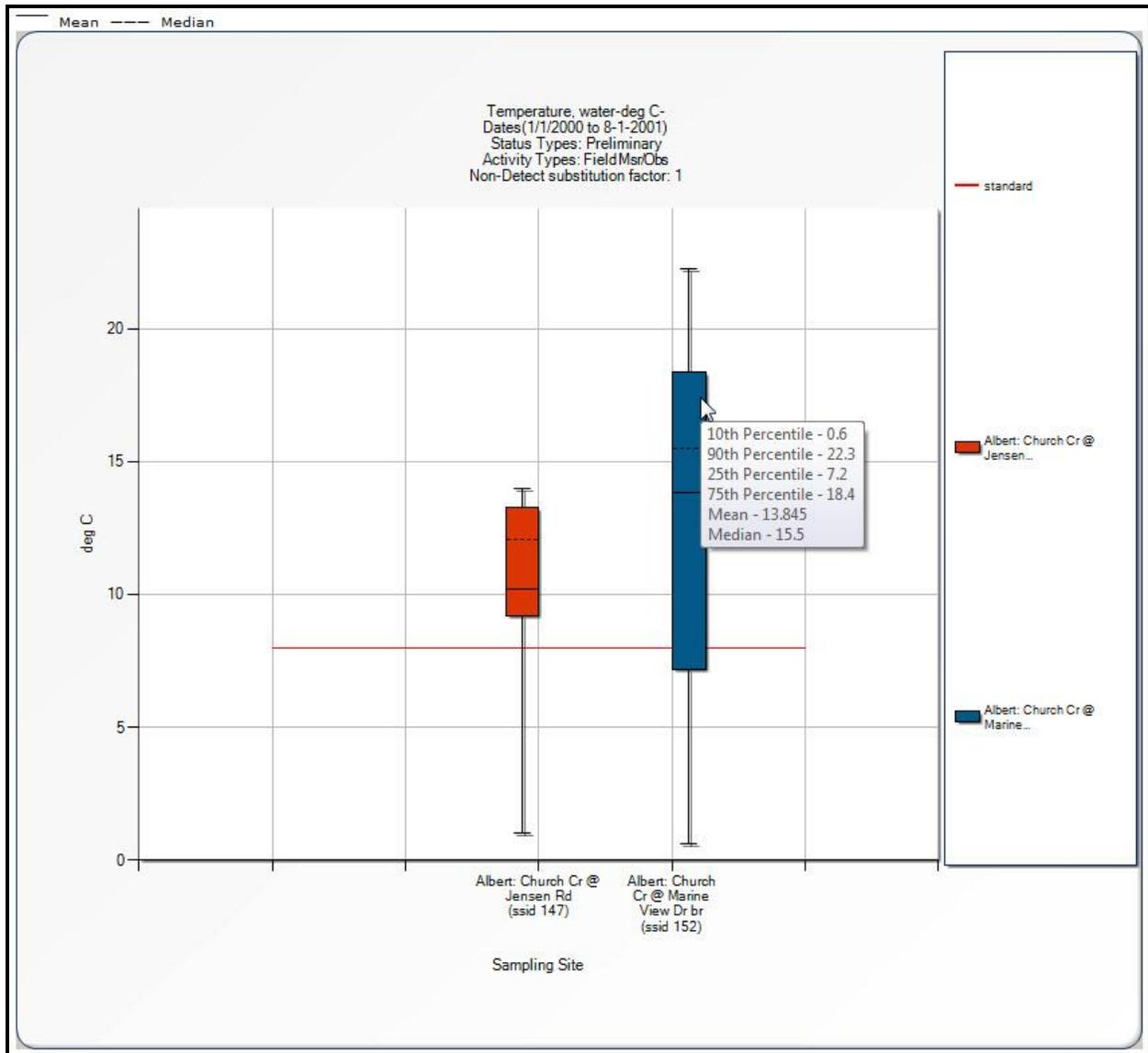
Decide whether/how you'd like the datapoints displayed, as described in section 10.2.

Select the **Continue** button.

The system will display the graph.







10.2.8 Bi-variate Scatter Plot

Overview

The bi-variate scatter plot graphically displays correlated measurement values from two characteristics mapped as X and Y coordinates on a plane. This is useful in identifying possible correlations between characteristics (for example, “Does the dissolved oxygen decrease as temperature rises?”).

Step-by-Step Instructions

Navigate to the Data Analysis Criteria page by choosing **Data Analysis** under the Output section of the navigation panel and then choosing **8.2.6 Multiple Characteristic Mean Value Line & Bar Graph** when the Data Analysis page displays.

Fill in the criteria as described in section 10.1.

NOTE: This graph does not permit the graphing of thresholds. Therefore, you cannot recall a threshold group nor manually enter thresholds in this criteria page.

In the list of characteristics, use the radio buttons to select the characteristics one to be graphed on the X axis and one to be graphed on the Y axis.

Choose whether the X and Y values should be correlated by Activity ID or by Activity Date.

Correlate mean values by:*

Activity ID

Activity Date

If you'd like the Y axis scale or the X axis scale to be logarithmic, check the box next to the corresponding "Axis Scale Logarithmic". This will "shrink" the scale in order to be able to show an extremely wide range of values in a reasonably-sized graph.

X-Axis Scale Logarithmic

Y-Axis Scale Logarithmic

If you would like the system to plot a regression line or a "line of best fit", check the box next to "Plot a regression line". The line is plotted using the "Least Squares" method and displays the formula for the line as well as the r^2 value.

Plot a regression line

Decide whether/how you'd like the datapoints displayed, as described in section 10.2.

Select **Continue**. The system will display the graph.

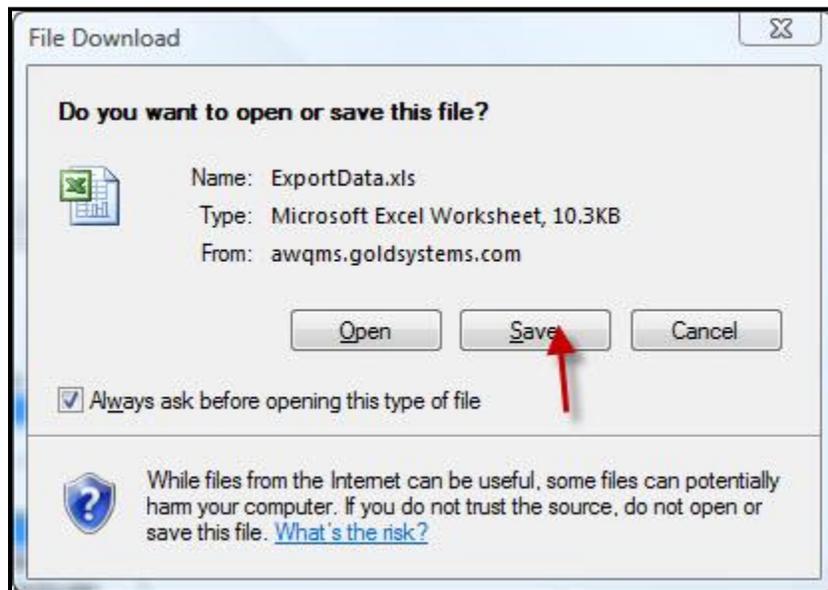
10.2.9 Exporting Graph Data

You can export the data that is “behind” each graph in an Excel readable format. When viewing a graph, use the following steps to export the data to Excel:

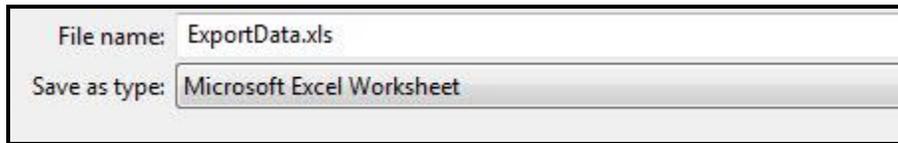
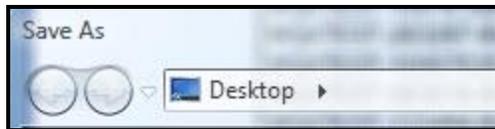
- Select **Export to Excel** below the graph.



A dialog will open asking you if you wish to open the file directly in Excel or save it to your computer. In this example, we will save the file and then open it in Excel. Select **Save**.

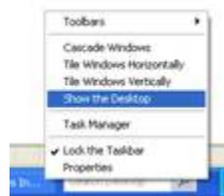


Your computer will then allow you to decide where to save the file and what name to use. In this example, we will save it to the desktop and keep the default name.

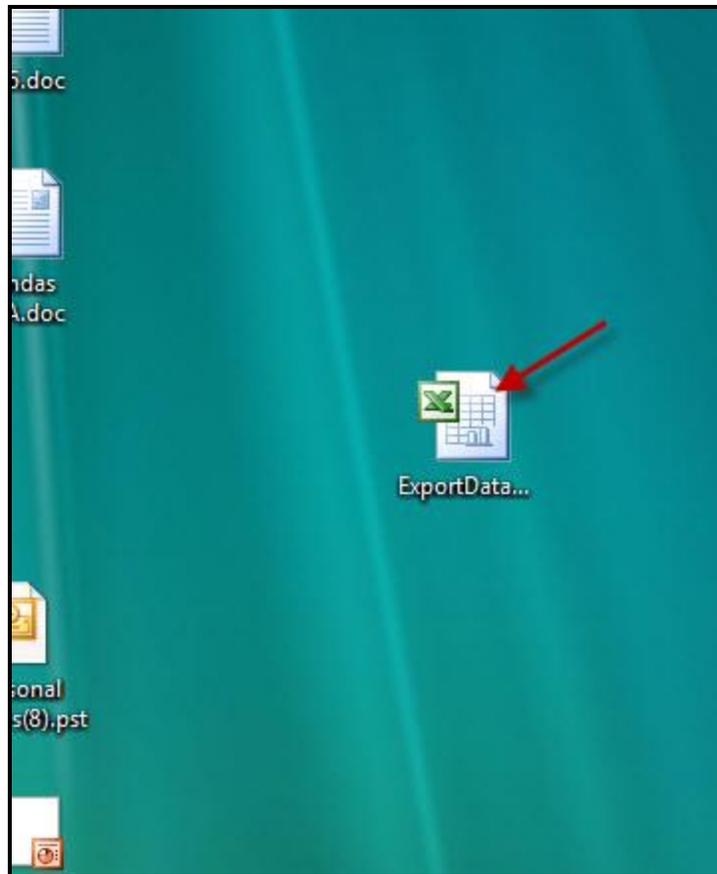


Select **OK** to close the save window .

Navigate to the desktop.



Double-click the file to open it in Excel.



The file opens in Excel.

Activity Start Date	Monitoring Location	Temperature, water
4/11/2000	Albert: Church Cr @ Jensen Rd (ssid 147)	9.5
5/10/2000	Albert: Church Cr @ Jensen Rd (ssid 147)	9.2
5/23/2000	Albert: Church Cr @ Jensen Rd (ssid 147)	12.3
6/7/2000	Albert: Church Cr @ Jensen Rd (ssid 147)	11.7
6/21/2000	Albert: Church Cr @ Jensen Rd (ssid 147)	13.3
7/6/2000	Albert: Church Cr @ Jensen Rd (ssid 147)	13.8
7/12/2000	Albert: Church Cr @ Jensen Rd (ssid 147)	12.9
7/20/2000	Albert: Church Cr @ Jensen Rd (ssid 147)	15
8/31/2000	Albert: Church Cr @ Jensen Rd (ssid 147)	12.8
9/14/2000	Albert: Church Cr @ Jensen Rd (ssid 147)	14
9/28/2000	Albert: Church Cr @ Jensen Rd (ssid 147)	11.8
12/12/2000	Albert: Church Cr @ Jensen Rd (ssid 147)	1
12/17/2000	Albert: Church Cr @ Jensen Rd (ssid 147)	0
12/19/2000	Albert: Church Cr @ Jensen Rd (ssid 147)	4
4/26/2001	Albert: Church Cr @ Jensen Rd (ssid 147)	12.1
2/25/2000	Albert: Church Cr @ Marine View Dr br (ssid 152)	4.6
3/23/2000	Albert: Church Cr @ Marine View Dr br (ssid 152)	7.2
4/11/2000	Albert: Church Cr @ Marine View Dr br (ssid 152)	11.9
4/28/2000	Albert: Church Cr @ Marine View Dr br (ssid 152)	9.7
5/10/2000	Albert: Church Cr @ Marine View Dr br (ssid 152)	9.7

10.3 Using Reports

The instructions on analyzing data using reports are provided in the subsequent sections.

10.3.1 Percent Exceedance Report

The Percent Exceedance Report summarizes, per location and per organization, the percentage of sample results per characteristic that exceeded the given standard over a selected period at one or more locations within one or more organizations. The report also shows the individual sample result information upon which the calculation is based and additional statistics per location are provided.

Step-by-Step Instructions

Navigate to the Data Analysis Criteria page by choosing Data Analysis under the Output section of the navigation panel and then choosing Percent Exceedance Report when the Data Analysis page displays.

Fill in the criteria as described in section 8.1.

NOTE: This report allows you to either select all monitoring locations at-a-time for one or more organizations or select specific monitoring locations one-by-one. Use whichever method suits your needs best.

Select **Continue**. The system displays the report.

Percent Exceedance Report
2/24/2009

Selected Organization(s): WQXTEST
Selected Location(s): WQXTEST-547-Albert: Church Cr @ Jensen Rd (ssid 147)
WQXTEST-542-Albert: Church Cr @ Marine View Dr br (ssid 152)
Selected Date Range: 1/1/2000 - 8-1-2001
Selected Characteristic: Temperature, water Fraction: Units: deg C
Lower Standard Entered: 8 **Upper Standard Entered:** 13

Location: WQX Test Organization Albert: Church Cr @ Jensen Rd (ssid 147)

Date	Value	Lower Standard	Upper Standard	Diff	%Diff	Exceedance?
4/11/2000	9.50	8	13			No
5/10/2000	9.20	8	13			No
5/23/2000	12.30	8	13			No
6/7/2000	11.70	8	13			No
6/21/2000	13.30	8	13	0.30	2%	Yes
7/6/2000	13.80	8	13	0.80	6%	Yes
7/12/2000	12.90	8	13			No
7/20/2000	15	8	13	2	15%	Yes
8/31/2000	12.80	8	13			No
9/14/2000	14	8	13	1	8%	Yes
9/28/2000	11.80	8	13			No
12/12/2000	1	8	13	7	88%	Yes
12/17/2000	0	8	13	8	100%	Yes
12/19/2000	4	8	13	4	50%	Yes
4/26/2001	12.10	8	13			No

Albert: Church Cr @ Jensen Rd (ssid 147) Summary

Number Values: 15 **Mean Value:** 10.226667 **Mean Exceedance Value:** 8.728571
Number Exceedances: 7 **Mean Exceedance Diff:** 3.30
Percent Exceedances: 47% **Mean Exceedance % Diff:** 38%

Location: WQX Test Organization Albert: Church Cr @ Marine View Dr br (ssid 152)

Date	Value	Lower Standard	Upper Standard	Diff	%Diff	Exceedance?
2/25/2000	4.60	8	13	3.40	43%	Yes
3/23/2000	7.20	8	13	0.80	10%	Yes
4/11/2000	11.90	8	13			No
4/28/2000	9.70	8	13			No
5/10/2000	9.70	8	13			No
5/23/2000	16.20	8	13	3.20	25%	Yes
5/25/2000	13.40	8	13	0.40	3%	Yes
6/7/2000	14.80	8	13	1.80	14%	Yes
6/21/2000	18.40	8	13	5.40	42%	Yes
7/6/2000	22.30	8	13	9.30	72%	Yes
7/12/2000	21.50	8	13	8.50	65%	Yes
7/20/2000	24.80	8	13	11.80	91%	Yes
8/3/2000	25	8	13	12	92%	Yes
8/31/2000	17.40	8	13	4.40	34%	Yes
9/14/2000	19.60	8	13	6.60	51%	Yes
9/28/2000	16.70	8	13	3.70	28%	Yes
12/13/2000	0.60	8	13	7.40	93%	Yes
12/25/2000	0	8	13	8	100%	Yes
3/9/2001	6.80	8	13	1.20	15%	Yes
4/26/2001	16.30	8	13	3.30	25%	Yes

Albert: Church Cr @ Marine View Dr br (ssid 152) Summary

Number Values: 20 **Mean Value:** 13.845 **Mean Exceedance Value:** 14.447059
Number Exceedances: 17 **Mean Exceedance Diff:** 5.364706
Percent Exceedances: 85% **Mean Exceedance % Diff:** 47%

Organization WQX Test Organization Summary

Number Values: 35 **Mean Value:** 12.294286 **Mean Exceedance Value:** 12.779167
Number Exceedances: 24 **Mean Exceedance Diff:** 4.7625
Percent Exceedances: 69% **Mean Exceedance % Diff:** 45%

10.3.2 Single Characteristic Statistics by Location Report

The Single Characteristic Statistics by Location Report shows a table containing statistics for each selected location. Statistics shown are: Number of Samples, Minimum Measurement, Maximum Measurement, Median, 90th Percentile, and whether more than 10% of the location's measurements for the period specified were exceedances.

Step-by-Step Instructions

Navigate to the Data Analysis Criteria page by choosing Data Analysis under the Output section of the navigation panel and then choosing Single Characteristic Statistics by Location Report when the Data Analysis page displays.

Fill in the criteria as described in section 8.1.

NOTE: This report allows you to either select all monitoring locations for one or more organizations or select specific monitoring locations. Use whichever method suits your needs best.

Select **Continue**. The system displays the report.

Single Characteristic Statistics by Location Report										
2/24/2009										
Selected Organization(s): WQXTEST										
Selected Locations(s): WQXTEST-547-Albert Church Cr @ Jensen Rd (ssid 147)										
WQXTEST-542-Albert Church Cr @ Marine View Dr br (ssid 152)										
Selected Date Range: 1/1/2000 - 8-1-2001										
Selected Characteristic: Temperature, water Fraction: Units: deg C										
Lower Standard Entered: 8 Upper Standard Entered: 13										
Organization	Location	Num Samples	Min	Max	Median	90th Percentile	Lower Standard	Upper Standard	Num Exceedance	>10% Excd. Std?
WQX Test Organization	Albert Church Cr @ Jensen Rd (ssid 147)	15	0	15	12.10	14	8	13	7	Yes
WQX Test Organization	Albert Church Cr @ Marine View Dr br (ssid 152)	20	0	25	15.50	22.30	8	13	17	Yes

10.3.3 Number of Exceedances per Location Report

The Number of Exceedances per Location Report summarizes, per location, the number of exceedances that were sampled during a specified period for a set of user-specified characteristics. The report also provides the details and summarizes the mean percentage difference for the exceedances that were included in the report at each location.

Step-by-Step Instructions

Navigate to the Data Analysis Criteria page by choosing Data Analysis under the Output section of the navigation panel and then choosing Number of Exceedances per Location Report when the Data Analysis page displays.

Fill in the criteria as described in section 8.1.

NOTE: This report allows you to either select all monitoring locations for one or more organizations or select specific monitoring locations. Use whichever method suits your needs best.

Select **Continue**. The system displays the report.

Number Exceedances per Location Report								
2/24/2009								
Selected Organization(s): WQXTEST								
Selected Location(s): WQXTEST-547-Albert: Church Cr @ Jensen Rd (ssid 147)								
Selected Date Range: 1/1/2000 - 8-1-2001								
Selected Characteristic: Dissolved oxygen (DO) Fraction: Units: mg/l								
Temperature, water Fraction: Units: deg C								
Location: WQX Test Organization Albert: Church Cr @ Jensen Rd (ssid 147)								
Date	Characteristic	Fraction	Value	Units	Lower Standard	Upper Standard	%Diff	
6/21/2000	Temperature, water		13.30	deg C	5	13	2%	
7/6/2000	Temperature, water		13.80	deg C	5	13	6%	
7/20/2000	Temperature, water		15	deg C	5	13	15%	
9/14/2000	Temperature, water		14	deg C	5	13	8%	
12/12/2000	Dissolved oxygen (DO)		5	mg/l	23	50	78%	
12/12/2000	Temperature, water		1	deg C	5	13	80%	
12/17/2000	Dissolved oxygen (DO)		0	mg/l	23	50	100%	
12/17/2000	Temperature, water		0	deg C	5	13	100%	
12/19/2000	Dissolved oxygen (DO)		2	mg/l	23	50	91%	
12/19/2000	Temperature, water		4	deg C	5	13	20%	
Location Exceedance Count: 10				Mean Exceedance % Diff: 50%				
Location: WQX Test Organization Albert: Church Cr @ Marine View Dr br (ssid 152)								
Date	Characteristic	Fraction	Value	Units	Lower Standard	Upper Standard	%Diff	
2/25/2000	Dissolved oxygen (DO)		11.50	mg/l	23	50	50%	
2/25/2000	Temperature, water		4.60	deg C	5	13	8%	
3/23/2000	Dissolved oxygen (DO)		11.70	mg/l	23	50	49%	
4/28/2000	Dissolved oxygen (DO)		9.10	mg/l	23	50	60%	
5/23/2000	Temperature, water		16.20	deg C	5	13	25%	
5/25/2000	Dissolved oxygen (DO)		8.40	mg/l	23	50	63%	
5/25/2000	Temperature, water		13.40	deg C	5	13	3%	
6/7/2000	Temperature, water		14.80	deg C	5	13	14%	
6/21/2000	Dissolved oxygen (DO)		9.20	mg/l	23	50	60%	
6/21/2000	Temperature, water		18.40	deg C	5	13	42%	
7/6/2000	Temperature, water		22.30	deg C	5	13	72%	
7/12/2000	Temperature, water		21.50	deg C	5	13	65%	
7/20/2000	Dissolved oxygen (DO)		14.80	mg/l	23	50	36%	
7/20/2000	Temperature, water		24.80	deg C	5	13	91%	
8/3/2000	Dissolved oxygen (DO)		14.90	mg/l	23	50	35%	
8/3/2000	Temperature, water		25	deg C	5	13	92%	
8/31/2000	Temperature, water		17.40	deg C	5	13	34%	
9/14/2000	Temperature, water		19.60	deg C	5	13	51%	
9/28/2000	Temperature, water		16.70	deg C	5	13	28%	
12/13/2000	Dissolved oxygen (DO)		10	mg/l	23	50	57%	
12/13/2000	Temperature, water		0.60	deg C	5	13	88%	
12/25/2000	Dissolved oxygen (DO)		0	mg/l	23	50	100%	
12/25/2000	Temperature, water		0	deg C	5	13	100%	
4/26/2001	Dissolved oxygen (DO)		10.20	mg/l	23	50	56%	
4/26/2001	Temperature, water		16.30	deg C	5	13	25%	
Location Exceedance Count: 25				Mean Exceedance % Diff: 52%				

Criteria Fields

The table below lists the fields you will use to enter search criteria for the data upon which the report will be based.

10.3.4 Quartiles Report

The Quartiles report shows the minimum value, the 25th quartile, the median, the 75th quartile, and the maximum value for a given characteristic at each selected location.

Step-by-Step Instructions

Navigate to the Data Analysis Criteria page by choosing Data Analysis under the Output section of the navigation panel and then choosing Number of Exceedances per Location Report when the Data Analysis page displays.

Fill in the criteria as described in section 8.1.

NOTE: This report allows you to either select all monitoring locations for one or more organizations or select specific monitoring locations. Use whichever method suits your needs best.

Select **Continue**. The system displays the report.

Quartiles Report						
2/24/2009						
Selected Organization(s): WQXTEST						
Selected Locations(s): WQXTEST-547-Albert Church Cr @ Jensen Rd (ssid 147)						
WQXTEST-542-Albert Church Cr @ Marine View Dr br (ssid 152)						
Selected Date Range: 1/1/2000 - 8-1-2001						
Selected Characteristic: Temperature, water Fraction: Units: deg C						
Organization	Location	Min	25th Quartile	Median	75th Quartile	Max
WQX Test Organization	Albert Church Cr @ Jensen Rd (ssid 147)	0	9.20	12.10	13.30	15
WQX Test Organization	Albert Church Cr @ Marine View Dr br (ssid 152)	0	7.20	15.50	18.40	25

10.3.5 Activity and Results Summary Report

The Activity and Results Summary report shows a list of organizations in the system. For each organization in the list, the report shows the Minimum Activity Date, Maximum Activity Date, Total Number of Activities, and the Total Number of Results.

Step-by-Step Instructions

Navigate to the Data Analysis page by choosing Data Analysis under the Output section of the navigation panel. Then choose the Activity and Results Summary Report link.

No criteria is required for this report and, therefore, there is no criteria page.

The system displays the report.

Activity and Results Summary				
04-13-2012				
Organization	Min Activity Date	Max Activity Date	Total Activities	Total Results
INHOUSE	07-29-1992	12-17-2008	39,491	885,274
SHELLFISH	01-05-2000	03-18-2009	51,651	371,067
TEST10	08-02-2003	09-30-2003	641	4,488
TEST5	05-04-1999	06-30-1999	2	3
TEST9	09-05-2000	11-06-2000	128	2,088
TESTJEFF	08-10-1981	04-10-2008	3,187	46,447
TESTMARK	04-14-2003	03-01-2012	40,924	45,799
TESTRICK	10-12-1999	03-07-2012	4,286	19,339
TESTRYAN	09-14-1994	12-01-2011	12,673	80,850
WQXTEST	04-03-1990	04-05-2012	55	530

10.4 Analyzing Data by Exporting Data for External Analysis

10.4.1 Crosstab/Excel Export

The Crosstab/Excel Export generates a “crosstab”-style spreadsheet containing a list of Activities and the corresponding values for any related characteristic results. Each activity is listed once and there is one column per characteristic. NOTE: if more than one result exists per activity for the same characteristic, the values are averaged. NOTE: this export generates in a “synchronous” mode; meaning that you must wait for the export to complete before you can navigate to another part of the application. Therefore, this export is not recommended for large data sets.

Step-by-Step Instructions

Navigate to the Data Analysis Criteria page by choosing Data Analysis under the Output section of the navigation panel and then choosing Crosstab/Excel Export when the Data Analysis page displays.

Fill in the criteria as described in section 8.1.

NOTE: This export allows you to either select all monitoring locations for one or more organizations or select specific monitoring locations. Use whichever method suits your needs best.

Choose whether the system should determine whether to average values based on a common Activity ID or based on a common Activity Date.

Correlate mean values by:*

Activity ID

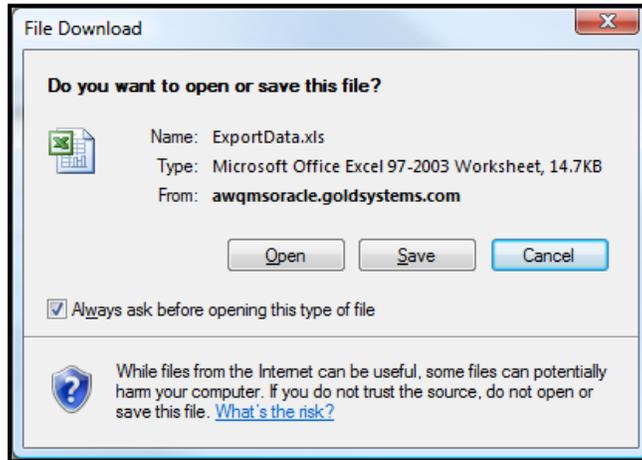
Activity Date

To view the export in your browser, select **Continue**. The system will display the export in your browser.

* Please note that if more than one result exists per Activity ID (for the same characteristic), then values are averaged.

Activity ID	Activity Start Date	Activity Start Time	Monitoring Location	Enterococcus MPN - Total
BEACH03T-1497-BEACH2003-1	06-04-2003		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH03T-2138-BEACH2003-2	08-06-2003		AAHOLLYWOOD ~ Hollywood on the Severn	20
BEACH03T-2138-BEACH2003-1	08-06-2003		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-4616-BEACH2004-2	06-02-2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-4616-BEACH2004-3	06-02-2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-4616-BEACH2004-1	06-02-2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-4710-BEACH2004-2	06-09-2004		AAHOLLYWOOD ~ Hollywood on the Severn	40
BEACH04T-4710-BEACH2004-1	06-09-2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-4710-BEACH2004-3	06-09-2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-5112-BEACH2004-3	07-07-2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-5112-BEACH2004-1	07-07-2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-5112-BEACH2004-2	07-07-2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-5499-BEACH2004-1	08-04-2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-5499-BEACH2004-3	08-04-2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-5499-BEACH2004-2	08-04-2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9068-BEACH2005-2	05-25-2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9068-BEACH2005-1	05-25-2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9068-BEACH2005-3	05-25-2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9331-BEACH2005-2	06-13-2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9331-BEACH2005-3	06-13-2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9331-BEACH2005-1	06-13-2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9878-BEACH2005-2	07-06-2005		AAHOLLYWOOD ~ Hollywood on the Severn	50
BEACH05T-9878-BEACH2005-1	07-06-2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9878-BEACH2005-3	07-06-2005		AAHOLLYWOOD ~ Hollywood on the Severn	30
BEACH05T-10513-BEACH2005-3	08-03-2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-10513-BEACH2005-1	08-03-2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-10513-BEACH2005-2	08-03-2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH03T-1886-BEACH2003-1	07-14-2003		CEHOLLYWOOD ~ Hollywood Beach	20
BEACH04T-4286-BEACH2004-3	04-06-2004		CEHOLLYWOOD ~ Hollywood Beach	10
BEACH04T-4992-BEACH2004-3	06-29-2004		CEHOLLYWOOD ~ Hollywood Beach	40
BEACH04T-5823-BEACH2004-1	08-23-2004		CEHOLLYWOOD ~ Hollywood Beach	20
BEACH05T-8903-BEACH2005-1	05-17-2005		CEHOLLYWOOD1 ~ Hollywood Beach	10

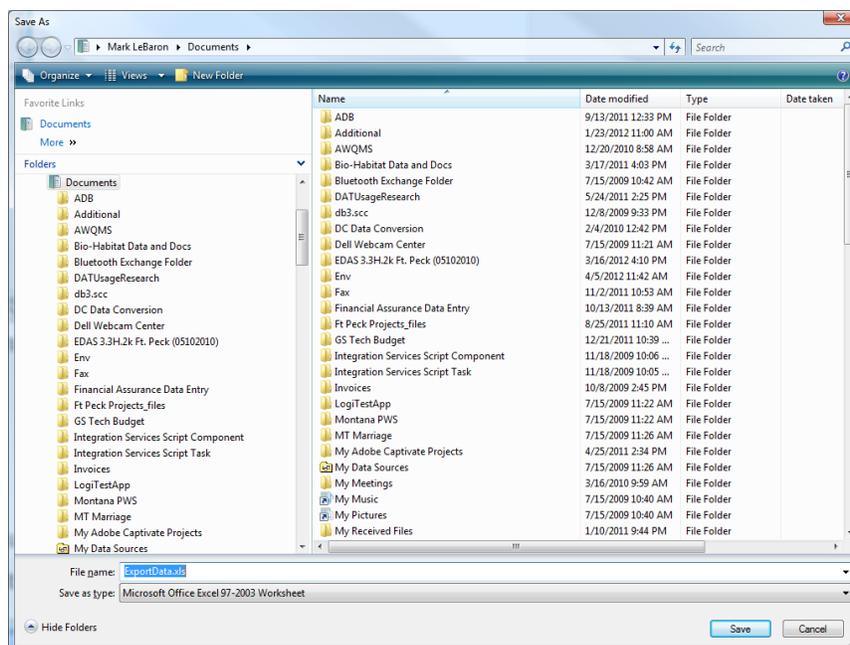
Alternatively, to view the export in Excel or to save the export as a local file to be opened later, select **Export to Excel**. The system asks whether to open or save the file.



If you open it, the file will be opened in Excel (and you can save the file from within Excel).

Activity ID	Activity Start Date	Activity Start Time	Monitoring Location	Enterococcus MPN - Total
* Please note that if more than one result exists per Activity ID (for the same characteristic), then values are averaged.				
BEACH03T-1497-BEACH2003-1	6/4/2003		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH03T-2138-BEACH2003-2	8/6/2003		AAHOLLYWOOD ~ Hollywood on the Severn	20
BEACH03T-2138-BEACH2003-1	8/6/2003		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-4616-BEACH2004-2	6/2/2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-4616-BEACH2004-3	6/2/2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-4616-BEACH2004-1	6/2/2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-4710-BEACH2004-2	6/9/2004		AAHOLLYWOOD ~ Hollywood on the Severn	40
BEACH04T-4710-BEACH2004-1	6/9/2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-4710-BEACH2004-3	6/9/2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-5112-BEACH2004-3	7/7/2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-5112-BEACH2004-1	7/7/2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-5112-BEACH2004-2	7/7/2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-5499-BEACH2004-1	8/4/2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-5499-BEACH2004-3	8/4/2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH04T-5499-BEACH2004-2	8/4/2004		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9068-BEACH2005-2	5/25/2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9068-BEACH2005-1	5/25/2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9068-BEACH2005-3	5/25/2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9331-BEACH2005-2	6/13/2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9331-BEACH2005-3	6/13/2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9331-BEACH2005-1	6/13/2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9878-BEACH2005-2	7/6/2005		AAHOLLYWOOD ~ Hollywood on the Severn	50
BEACH05T-9878-BEACH2005-1	7/6/2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-9878-BEACH2005-3	7/6/2005		AAHOLLYWOOD ~ Hollywood on the Severn	30
BEACH05T-10513-BEACH2005-3	8/3/2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-10513-BEACH2005-1	8/3/2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH05T-10513-BEACH2005-2	8/3/2005		AAHOLLYWOOD ~ Hollywood on the Severn	10
BEACH03T-1886-BEACH2003-1	7/14/2003		CEHOLLYWOOD ~ Hollywood Beach	20
BEACH04T-4286-BEACH2004-3	4/6/2004		CEHOLLYWOOD ~ Hollywood Beach	10
BEACH04T-4992-BEACH2004-3	6/29/2004		CEHOLLYWOOD ~ Hollywood Beach	40
BEACH04T-5823-BEACH2004-1	8/23/2004		CEHOLLYWOOD ~ Hollywood Beach	20
BEACH05T-8903-BEACH2005-1	5/17/2005		CEHOLLYWOOD1 ~ Hollywood Beach	10

If you save it, the system will prompt you for a local location and a name for the file.



Provide the location and file name and select Save. The system will save the file and you can open and view the file in Excel at your convenience.

10.4.2 Standard Export

The Standard Export generates a “flat” text file containing a list of Activities and the values for any related characteristic results. The Activity information repeats per characteristic. The columns are separated by commas. NOTE: if more than one result exists per activity for the same characteristic, the values are not averaged. Instead, all the results are exported as an individual row. NOTE: this export generates in a “asynchronous” mode; meaning that you do not have to wait for the export to complete before you can navigate to another part of the application. Therefore, this export is recommended for large data sets.

Step-by-Step Instructions

Navigate to the Data Analysis Criteria page by choosing Data Analysis under the Output section of the navigation panel and then choosing Standard Export when the Data Analysis page displays.

Fill in the criteria as described in section 8.1.

NOTE: This export allows you to either select all monitoring locations for one or more organizations or select specific monitoring locations. Use whichever method suits your needs best.

Select Continue to generate the export. The Dataset Summary page will be displayed.

You are here: [Home](#) >> [Datasets](#) >> Dataset Summary

Dataset Summary

Type:	Standard Export
Status:	Exported Text File

Datasets are Temporary

Datasets are held in a staging area while you correct any validation errors found during import. You must migrate the dataset to make the data permanent.

The system will delete this dataset if it remains in the staging area more than 90 days.

Export

Error/Warning/Message: 0 / 0 / 3 [View Log](#)

Start Time: 04-13-2012 05:13:46 PM

End Time: 04-13-2012 05:13:48 PM

Documents (available for download)

[Standard Export 1096.zip](#)

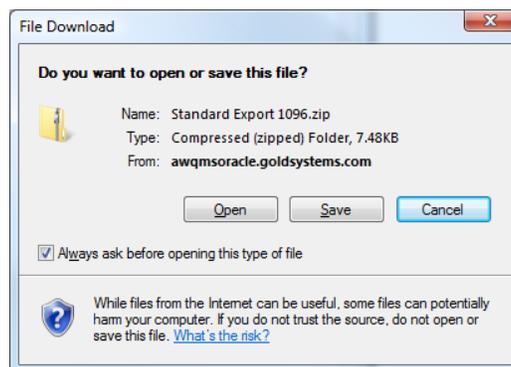
[AWOMS User Guide](#) | [AWOMS Forums](#) | [STORET](#) | [W](#)

You can wait until the Dataset Summary page refreshes and shows a status of “Exported Text File”, or you can navigate away and do other work in the system while the export is running and come back and check the status at your convenience.

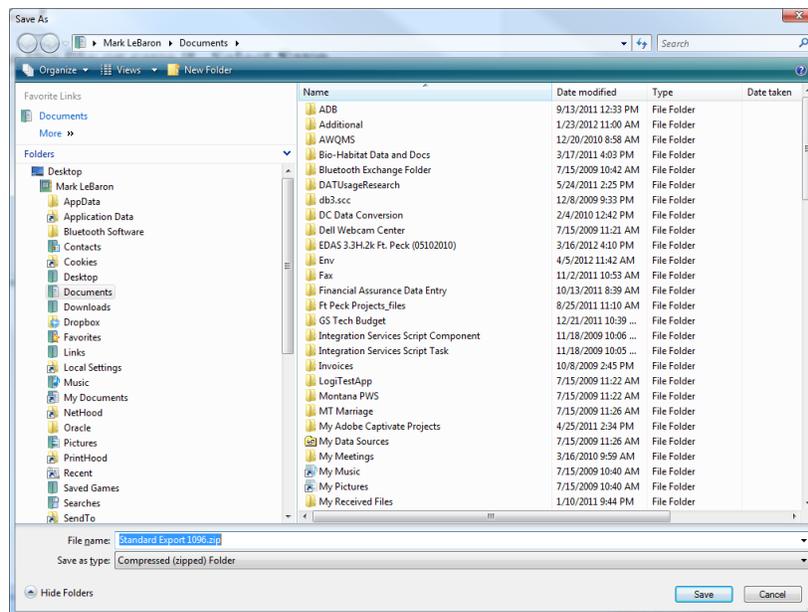
When the Dataset Summary page for the export shows a status of “Exported Text File” it will provide a link to download a compressed “zip” file that contains the export file. Select the link for the file.



The system will ask whether you want to open the file or save it. Select **Save**.

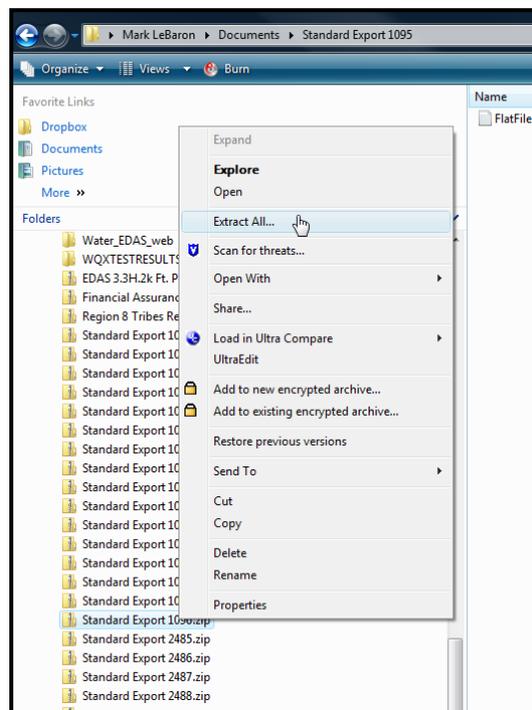


The system will prompt you for a file name and a local location where the file should be saved.



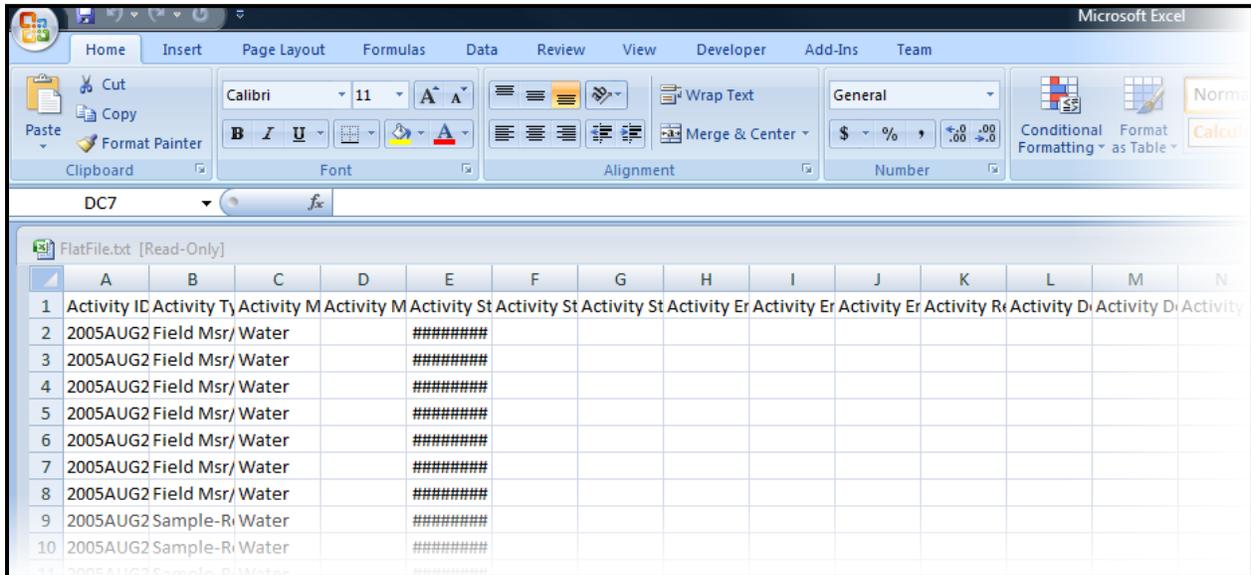
Provide the file name and location and select **Save**. Now you can navigate to the zip file and extract the compressed text file at your convenience.

You can extract the compressed text file by navigating to and right-clicking on the .zip file's icon in your Windows explorer or Windows "My Computer". Select "Extract All" from the pop-up menu.



The Windows compressed file extraction wizard will open and will prompt you for the location where the files should be saved. Provide the location (many times the default location provided will suffice) and check the "show extracted files" checkbox. Then select **Extract**. The file will be extracted and a new Windows Explorer will open and show you the

extracted file. You should be able to double-click on the file icon and view the file's contents in Excel. However, if double-clicking on the icon opens the file in an application that is inconvenient, you can also right-click on the file icon and select "Open with...". You will be prompted for the application to use to open the file. Choose "Excel". The file will be opened and displayed in Excel.

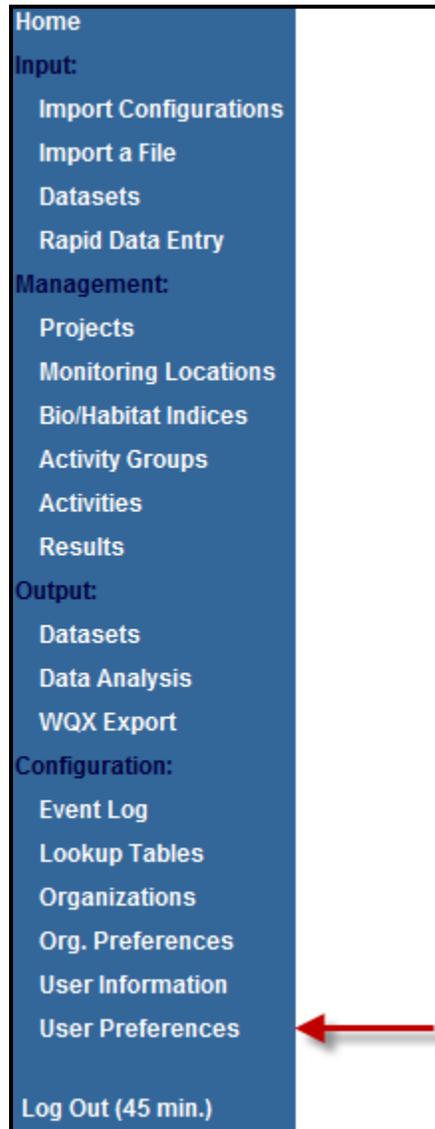


10.4.3 Standard (Abbreviated) Export

The Standard (Abbreviated) Export works exactly as the Standard Export does with the one exception that the abbreviated version exports fewer columns based on a specification provided by the State of Utah Division of Water Quality.

11. SETTING YOUR USER PREFERENCES

Use the User Preferences Page to customize the way you want the system to behave.
Select the “User Preferences” link under the Configuration section of the navigation panel.



The User Preferences page will be displayed.

You are here: [Home](#) >> User Preferences

User Preferences

Organization
Default: TESTMARK ▼

Import Configuration Page
Column Delimiter: Comma ▼

Import File Page
 Ignore First Row of Import Files

Max. Length Resolution Page
Resolution: Modify value manually ▼

Domain Value Resolution Page
Resolution: Modify value manually ▼

List Pages
Number of Results Per Page: 100 ▼
Monitoring Location Sort Order: ID ▼

Data Analysis Criteria Page
Date (between): 01-01-2005  and 12-31-2005  (MM-DD-YYYY)
 Include results that are 'Not Detected' or 'Present Below Quantification Limit':
Use x MDL or LQL as the value
When calculating geometric mean, substitute for a value of zero
Correlate mean values by:
 Activity ID
 Activity Date
Graphs: Display values as:
 Don't show values
 Show values as labels
 Show values as tooltips on mouseover

The preferences currently available are:

Organization – Default. For users associated with many organizations in AWQMS, this preference allows you to specify which organization should show up in the Organization search filter field in the list pages and the DAT criteria page.

Import Configuration Page - Column Delimiter. This sets the default value for the Column Delimiter field on a new import configuration. It can be overridden each time you create an import configuration.

Import File Page - Ignore First Row of Import Files. This sets the default value for this check box on the Import File Page and can be overridden each time you import a file

Max Length Resolution Page - Resolution. This sets the default value for this field on the Max Length Resolution Page. See the Max Length Resolution Page for more information.

Domain Value Resolution Page - Resolution. This sets the default value for this field on the Domain Value Resolution Page. See the Domain Value Resolution Page for more information.

List Pages -

Number of Results Per Page. Allows you to specify the number of results from the result set to display initially and each time you select one of the pagination buttons at the bottom of the list page. Unless the number of results is evenly divisible by this number, the last page will only display the remainder of the result set.

Monitoring Location Sort Order. Whether to sort by Monitoring Location Name or by Monitoring Location ID when the user selects the Monitoring Location column header in the list pages.

Data Analysis Criteria Page – These preferences provide default values for search criteria and reporting and graphing options available when running reports, graphs, and exports in the DAT. Use of these preferences mitigates having to reenter the same selections each time the DAT is used. See the sections on DAT reports and graphs for more information regarding the effects the specific values of these preferences when running reports and graphs.

Date (Between). If this date range is provided the values will be used as the defaults for the corresponding fields in the DAT criteria page.

Include results that are 'Not Detected' or "Present Below Quantification Limit". If this checkbox is checked then, the corresponding checkbox in the DAT will be checked and the MDL/LQL factor you provided here will be used as the default in the DAT.

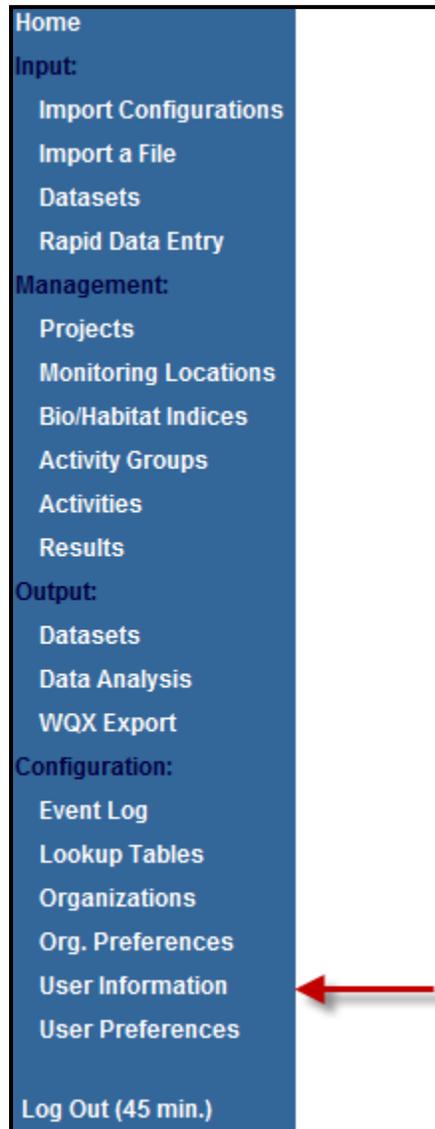
When calculating geometric mean, substitute N for a value of zero. If this preference contains a value for N, the system will default N to the corresponding field in the DAT criteria page.

Correlate mean values by. The corresponding radio button set in the DAT criteria page will default to the preference specified here.

Graphs: Display values as. The corresponding radio button set in the DAT criteria page will default to the preference specified here.

12. CHANGING YOUR USER INFORMATION

Click the “User Information” link on the navigation panel to open the User Detail Page. Depending on the role of the user, this link will behave differently (see the next section for details).



The User Detail Page will be displayed.

User Detail

Status:	Enabled
Login Name:*	<input type="text" value="rjorgensen"/>
Password:*	<input type="password" value="•"/>
Full Name:*	<input type="text" value="Ryan Jorgensen"/>
Role:*	Administrator <input type="button" value="v"/>
WQX/NAAS ID:*	<input type="text" value="ryanj@goldsystems.com"/>
Affiliation:	<input type="text" value="Gold Systems"/>
Address:	<input type="text" value="3330 South 700 East"/>
City:	<input type="text" value="SLC"/>
State:	<input type="text" value="UT"/>
Zip:	<input type="text" value="84016"/>
Country:	<input type="text" value="USA"/>
Phone #:	<input type="text" value="801-456-6105"/>
Email:	<input type="text" value="ryanj@goldsystems.com"/>

[View User Access Rights](#)

13. ADMINISTRATION

This section describes features available to administrators, support, and standard users.

13.1 Roles

Each user is assigned a role in AWQMS. It's useful to have an understanding of the various roles and their rights as you read through the rest of this section.

Roles determine a user's rights to certain pages or features within the system. Roles are not, for the most part, used to assign rights to data. Rights to data is managed separately. The following roles (and related rights) exist in AWQMS:

Administrator

- Can add, edit, enable, and disable users
- Can add organizations
- Can manage any user's rights on any organization, project, or import configuration
 - An administrator does not have rights to all data in the system by default. Instead an administrator grants himself/herself whatever rights are needed

or wanted. It is typical to grant at least read-only rights to all organizations and all import configurations so that he/she can view everything in the system.

- Can add/edit/delete values in all lookup tables except organization-specific lookup values (whose rights are assigned via organization rights, rather than roles)
- Can view event logs for all users including system events.
- Can access all pages within the system

Support User

- Can view all users and edit their information (except for their Login Name, Role, or WQX/NAAS ID)
 - Cannot add, enable or disable users
- Can view all users' rights on organizations
- Can manage all users' rights on import configurations
- Can view values in all lookup tables except organization-specific lookup values (whose rights are assigned via organization rights, rather than roles)
- Can view event logs for all users including system events.
- Can access all pages within the system

Standard User

- Cannot view the Users List Page
- Can view his/her own user account and edit his/her own contact information, but cannot edit certain fields that are limited to administrators (such as login name, role, or NAAS ID.
- Can access all pages within the system except for the one(s) accessible via the "Admin-only" link in the navigation panel

Public User

This role is intended for user accounts provided to the general public for access to your water quality data. It's important to remember that data access rights are not based on roles. Although not part of the role itself, it is standard practice for an administrator to limit organization rights to "read-only" for users with the "Public User" Role.

- Public users can only access the following pages:
 - List Pages and Detail Pages for Project, Monitoring Locations, Indices, Activities, Results
 - [Output] Datasets List Page and Summary Page
 - Data Analysis Pages

Training User

This role is only available in the demo version of AWQMS at Gold Systems. To work correctly, a training user must be assigned only one organization (with Administrator rights on that organization). This role will provide a user with all the same rights as a Standard User, in addition to the following:

- Can click a Reset Button on the Home Page which will delete all organization data, datasets and import configurations created by the user, and then restore a standard set of data and import configurations that are used for demonstration/training purposes.

13.2 Managing Users

Click the "Users" link on the Navigation Panel



You are here: [Home](#) >> [Users](#)

Users

Show Inactive Users

Login Name	Full Name	Affiliation	Active?
jschimek	Jenn Schimek	RTI	Yes
jwellman	Jennifer Wellman	Pueblo of Santa Ana, New Mexico	Yes
jbisese	Jimmy Bisese	RTI	Yes
jfreise	John Freise	Cherokee Nation, Oklahoma	Yes
jwright	Julia Wright	Osage Tribe, Oklahoma	Yes
kcs	Kevin Christian	US EPA	Yes
gkb	Kristen Gunthardt	US EPA	Yes
mlebaron	Mark M. LeBaron	Gold Systems, Inc.	Yes
nbove	Nathan Bove	Gold Systems	Yes
pdz	Paul Andrews	RTI	Yes
rcooke	Rick Cooke	Gold Systems	Yes
rjorgensen	Ryan Jorgensen	Gold Systems	Yes

[Return](#) [Add New](#) Row 1 - 105 of 105

From the Users list page, you can view/edit an existing user by clicking the appropriate link in the "Full Name" column of the list. To add a new user, click the "Add New" button.

The User Detail page will be displayed.

User Detail

Status:	Enabled
Login Name:*	<input type="text" value="rjorgensen"/>
Password:*	<input type="password" value="•"/>
Full Name:*	<input type="text" value="Ryan Jorgensen"/>
Role:*	Administrator <input type="button" value="v"/>
WQX/NAAS ID:*	<input type="text" value="ryanj@goldsystems.com"/>
Affiliation:	<input type="text" value="Gold Systems"/>
Address:	<input type="text" value="3330 South 700 East"/>
City:	<input type="text" value="SLC"/>
State:	<input type="text" value="UT"/>
Zip:	<input type="text" value="84016"/>
Country:	<input type="text" value="USA"/>
Phone #:	<input type="text" value="801-456-6105"/>
Email:	<input type="text" value="ryanj@goldsystems.com"/>

[View User Access Rights](#)

Fill in the user information, as appropriate.

Login Name:

This is the user's login name.

WQX/NAAS ID:

This is used primarily by WQX Web. In AWQMS it is placed in the header of each submission file (but it primarily ignored by CDX). Place the user's email address here.

Role:

Places the user into a group with certain rights in the system. See the section above for a full explanation on the roles available.

13.2.1 Enabling/Disabling a User Account

Before a user is allowed access to the system, their user account must be enabled. Click the "Enable User" button on the User Details page to enable a new user (or previously disabled user).

To prevent a user from accessing the system you can disable their account. Click the "Disable User" button on the User Details page to disable a user.

13.3 Managing User Rights to Organizations, Projects and Import Configurations

A user's rights to organizations, projects, and import configurations are managed on the "User Rights" Page. This page can be accessed from several different pages within the system and has a different layout depending on the page from which it is accessed. An administrator can also change this context-specific layout by changing the value in the [Show] "Rights For" drop-down list at the top of the page.

User Rights
Rights For: <input type="text" value="User"/>

There are four values in this dropdown list (that control the page layout):

- User
The page shows a tabbed form where rights on organizations, projects, and import configurations can be assigned to a specific user.
- Organization
The page shows users and their rights on a specific organization.
- Import Configuration
The page shows users and their rights on a specific import configuration.
- Project
The page shows users and their rights on a specific project (within an organization).

13.3.1 Viewing and Changing Rights for a User

When a user accesses the User Rights Page from the User Detail Page or when an administrator changes the "Rights For" dropdown list to "User", then this page will have a layout appropriate for viewing all the rights for a specific user

The page has three tabs: one for the user's rights on organizations, one for the rights on projects, and one for the rights on import configurations.

Organization (tab)

User Rights

Rights For:

User:

Organization Project Import Configuration

Organization	Access Type
Delete *All Organizations	Read Only
Delete INHOUSE ~ In House Water Data	Edit/Delete (limited types)
Delete TEST5 ~ Test Organization 5	Administrator
Delete TESTRYAN ~ Ryan Test Organization	Administrator
Delete WQXTEST ~ Test Organization	Project Specific
Add <input type="text"/>	Project Specific

Note: Standard Users and Support Users have read-only access on this tab.

To assign rights on a new organization:

1. Navigate to the last row of the list labeled "Add".
2. In the "Add" row, choose the organization for which you wish to grant rights.
 - a. There is also a special value of "*All Organizations" which can be used to grant rights on all organizations. A user's rights on a specific organization will override his/her rights to "All Organizations".
3. Choose the Access Type you wish the user to have:
 - Project Specific – User only has privileges to certain projects for this organization.
 - Read Only – User cannot add, modify, or delete any data; but can view data for this organization.
 - Edit (Limited Types) – User cannot add, edit, or delete projects and monitoring locations for this organization but can view them. User can add and edit but not delete project-related information such as activities and results.
 - Edit – User can add and edit projects and monitoring locations as well as project-related information such as activities and results.
 - Edit/Delete (Limited Types) – User cannot add, edit, or delete projects and monitoring locations for this organization but can view them. User can add, edit, and delete project-related information such as activities and results.
 - Edit/Delete - User can add, edit, and delete projects and monitoring locations as well as project-related information such as activities and results.

- Administrator – User can manage the organization’s specific list of lookup values in the following tables: Analytical Method, Citation, Index Type, Metric Type, Lab Sample Prep. Method, Sample Collection Method, and Sample Preparation Method.

To remove the user’s rights to an organization:

1. Click the Delete link for the appropriate row.

Click the Save button to save your changes (and remain on the page). Click the Return button to save and return to the previous page.

Project (tab)

User Rights

Rights For: User

User: Ryan Jorgensen

Organization Project Import Configuration

	Organization	Project	Access Type
Delete	WQXTEST	HMIBIO ~ Hart-Miller Island (HMI) Benthic Community Monitoring	Read Only
Delete	WQXTEST	HMISED ~ Hart-Miller Island (Chemical and Sedimentology Monitoring)	Read Only
Delete	WQXTEST	HMITISS ~ Hart-Miller Island (HMI) Benthic and Fish Tissue Monitoring	Edit/Delete
Delete	WQXTEST	SED_01 ~ Hart-Miller Island Project II Year 01	Read Only
Add	<input type="text"/>	<input type="text"/>	Read Only

Return Save Cancel

Note: Standard Users and Support Users have read-only access on this tab.

To assign rights on a new project:

1. Navigate to the last row of the list labeled “Add”.
2. In the “Add” row, choose the organization to which the project belongs.
3. Choose the project.
4. Choose the Access Type you wish the user to have:
 - Read Only – User can view data for this project but cannot change it.
 - Edit – User can make modifications to data for this project and add new data for the project. User cannot change the project record itself.
 - Edit/Delete – User can make modifications to and delete data for this project and can add new data for the project. User cannot change the project record itself.

- Administrator – User can change the project record itself as well as edit/delete data under the project (e.g. activity, result, metric, etc).

To remove a user’s rights to a project:

1. Click the Delete link for the appropriate row.

Click the Save button to save your changes (and remain on the page). Click the Return button to save and return to the previous page.

Import Configuration (tab)

User Rights

Rights For:

User:

Organization Project **Import Configuration**

	Creator	Import Configuration	Access Type
Delete		*All Import Configurations	Edit
Delete	Ryan Jorgensen	1080 ~ Ryan - Projects	Edit/Delete
Delete	Ryan Jorgensen	1092 ~ Ryan - Results Expanded	Edit/Delete
Delete	Rick Cooke	1741 ~ Activities_And_Metrics	Read Only
Delete	Ryan Jorgensen	1758 ~ Ryan - Monitoring Location Simple	Edit/Delete
Delete	Ryan Jorgensen	1802 ~ Ryan - Results Crosstab 4	Edit/Delete
Delete	Ryan Jorgensen	1803 ~ Ryan - Results Demo	Read Only
Delete	Ryan Jorgensen	1806 ~ Ryan - Results Crosstab 5	Edit/Delete
Delete	Ryan Jorgensen	1823 ~ Index Test	Edit/Delete
Delete	Ryan Jorgensen	1835 ~ Physical/Chemical Rapid Entry	Edit/Delete
Delete	Ryan Jorgensen	1842 ~ Biological Rapid Entry Example	Edit/Delete

Note: Standard Users have read-only access on this tab. Support Users have full access.

To assign a user rights to a new import configuration:

1. Navigate to the last row of the list labeled “Add”.
2. In the “Add” row, choose the creator of the import configuration you are interested in (this will act as a filter on the Import Configuration list in the next column).
 - If you assigning rights on all import configurations (see below), then the "Creator" may be left blank.
3. Choose the Import Configuration
 - There is also a special value of "*All Import Configurations" which can be used to grant rights on all import configurations. A user's rights on a specific import configuration will override his/her rights on "All Import Configurations".
4. Choose the Access Type you wish the user to have:
 - Read Only – User can view and use the import configuration.

- Edit – User can make modifications to (and use) the import configuration.
- Edit/Delete – User can make modifications to and delete (and use) the import configuration.

To remove a user’s rights to an import configuration:

1. Click the Delete link for the appropriate row.

Click the Save button to save your changes (and remain on the page). Click the Return button to save and return to the previous page.

13.3.2 Viewing and Changing Rights on an Organization

When a user accesses the User Rights Page from the Organization Detail Page or when an administrator changes the "Rights For" dropdown list to "Organization", then this page will have the following layout (appropriate for viewing the users and their rights on a specific organization)

Rights For: Organization

Organization: WQXTEST

	User	Access Type
Delete	Andy Van den Akker	Administrator
Delete	Dave Wilcox	Administrator
Delete	Deepti Puri	Administrator
Delete	Default System Administrator	Administrator
Delete	Dwane Young	Administrator
Delete	Ehren Weerheim	Read Only
Delete	Eric Wilson	Administrator
Delete	Jeff Willard	Administrator
Delete	Kevin Christian	Administrator
Delete	Rick Cooke	Administrator
Delete	Ryan Jorgensen	Administrator
Delete	Test Ryan	Read Only
Delete	Test Standard User	Administrator
Add		Read Only

Return Save Cancel

Note: Standard Users and Support Users have read-only access in this mode.

To assign users and their rights to an organization:

1. Choose the organization to manage rights for in the organization dropdown list.

2. Navigate to the last row of the list labeled “Add”.
3. In the “Add” row, choose the user to grant rights to in the user dropdown list on the “Add” row.
4. Choose the access type you wish the user to have:
 - Project Specific – User only has privileges to certain projects for this organization.
 - Read Only – User cannot add, modify, or delete any data; but can view data for this organization.
 - Edit (Limited Types) – User cannot add, edit, or delete projects and monitoring locations for this organization but can view them. User can add and edit but not delete project-related information such as activities and results.
 - Edit – User can add and edit projects and monitoring locations as well as project-related information such as activities and results.
 - Edit/Delete (Limited Types) – User cannot add, edit, or delete projects and monitoring locations for this organization but can view them. User can add, edit, and delete project-related information such as activities and results.
 - Edit/Delete - User can add, edit, and delete projects and monitoring locations as well as project-related information such as activities and results.
 - Administrator – User can manage the organization’s specific list of lookup values in the following tables: Analytical Method, Citation, Index Type, Metric Type, Lab Sample Prep. Method, Sample Collection Method, and Sample Preparation Method.

To remove rights to an organization:

1. Click the Delete link for the appropriate row.

Click the Save button to save your changes (and remain on the page). Click the Return button to save and return to the previous page.

13.3.3 Viewing and Changing Rights on an Import Configuration

When a user accesses the User Rights Page from the Import Configuration Detail Page or when an administrator changes the "Rights For" dropdown list to "Import Configuration", then this page will have the following layout (appropriate for viewing the users and their rights on a specific import configuration)

Rights For:

Import Configuration:

	User	Access Type
Delete	Mark M. LeBaron	<input type="text" value="Edit/Delete"/>
Delete	Ryan Jorgensen	<input type="text" value="Edit/Delete"/>
Add	<input type="text"/>	<input type="text" value="Edit"/>

Note: Standard Users have read-only access in this mode. Support Users have full access.

To assign a user rights to an import configuration:

1. Choose the import configuration to manage rights for.
2. Navigate to the last row of the list labeled "Add".
3. In the "Add" row, choose the user.
4. Choose the access type you wish the user to have:
 - a. Read Only – User can view the import configuration but can't modify or delete it.
 - b. Edit – User can view and edit the import configuration but can't delete it.
 - c. Edit/Delete – User can view, edit, and delete the import configuration.

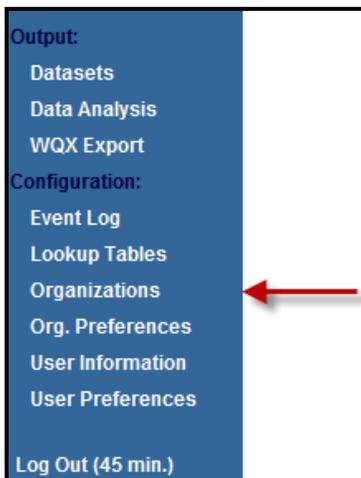
To remove rights to an import configuration:

1. Click the Delete link for the appropriate row.

Click the Save button to save your changes (and remain on the page). Click the Return button to save and return to the previous page.

13.4 Managing Organizations

1. Click the Organizations link on the navigation panel



2. The Organizations list page will open

You are here: [Home](#) >> Organizations

Organizations

ID	Name
SANDIA	Pueblo of Sandia
WQXTEST	WQX Test Organization
SANCLR	Santa Clara Pueblo
SANANA	Pueblo of Santa Ana
TCEQMAIN	Texas Commission on Environmental Quality
MA_DEP	Massachusetts Department of Environmental Protection
OREGONDEQ	Oregon Department of Environmental Quality
WIDNR_WQX	Wisconsin Department of Natural Resources
21KAN001_WQX	Kansas Dept. of Health & Environment
HUALAPAI	Hualapai Tribe
DEMOTEST	The Commission for a Good Clean Chesapeake Bay
GOLDMARK	Gold Systems - Mark

[Return](#)
[Add New](#)
 Row 1 - 500 of 764
 [First](#)
[Prev](#)
[Next](#)
[Last](#)

3. To create a new organization, click the Add New button. Otherwise click the link for a specific organization that you wish to view/edit. The Organization Details page will be displayed.

You are here: [Home](#) >> [Organizations](#) >> Organization Detail

Organization Detail

ID:*

Name:*

Description:

Tribe:

Address: (Limit: 3) [Add](#)

Type*	Address*	Supplemental Address	City/Locality	Country	State	Postal Code	County	
Location <input type="text"/>	<input type="text" value="3330 South 700 East"/>	<input type="text" value="Ste C"/>	<input type="text"/>	US ~ United States <input type="text"/>	UT ~ Utah <input type="text"/>	<input type="text"/>	Salt Lake <input type="text"/>	remove

Phone: [Add](#)

Type*	Phone Number*	Extension	
Fax <input type="text"/>	<input type="text" value="802-443-7449"/>	<input type="text"/>	remove
Office <input type="text"/>	<input type="text" value="800-876-9878"/>	<input type="text" value="9786"/>	remove

Email/Web Address: [Add](#)

Type*	Address*	
Email <input type="text"/>	<input type="text" value="acme@whatever.com"/>	remove
Internet <input type="text"/>	<input type="text" value="www.acme.com"/>	remove
Intranet <input type="text"/>	<input type="text" value="http://localhost/acme/index.html"/>	remove

[View User Access Rights](#)

[Return](#)
[Save](#)
[Cancel](#)
[Delete](#)

4. Fill in the Organization information

- a. Use the Add link to add up to 3 Organization Addresses.
 - b. Use the Add link to add Organization Phone Numbers.
 - c. Use the Add link to add Organization Email/Web Addresses.
5. Click the Save button or the Return button to save the new organization
 6. Click the View User Access Rights to manage the rights for the new organization.

To remove an address, phone number etc., click the Remove link on the row you wish to remove.

Click the Save or the Return button to save the changes.

13.4.1 Organization Detail Rules

The following rules apply to an organization:

- When Electronic Address or Electronic Address Type is provided, both must be provided.
- When Telephone Number or Telephone Number Type is provided, both must be provided.
- When Address or Address Type is provided, both must be provided.
- The following elements are required for an Organization:
 - Organization ID
 - Organization Name

13.5 Managing Lookup Tables

Lookup tables are a list of allowed values for a given data element. The lists can be used as a reference for the allowable values for an element.

13.5.1 Viewing the Values in a Lookup Table

Select the Lookup Tables link under the Configuration section of the navigation panel to view the list of Lookup Tables.



Select the "Table Type" to filter the list of lookup tables. Lookup tables fall into one of three main categories:

EPA Managed Tables: Many of the lookup tables in AWQMS are copies of lookup tables from EPA's WQX system and need to stay in sync with WQX to maintain full compatibility. Once or twice a year, updates to these tables are typically included with an AWQMS application update. It's generally not recommended to edit these tables manually. However, in a case where the update is needed immediately, a system administrator is allowed to change these tables manually within AWQMS, but caution should be used to make sure the spelling is exactly the same as the WQX System.

Locally Managed Tables: Some of the lookup tables in AWQMS do not exist in WQX. These tables can be managed locally. Many of these tables have values that are linked to a specific organization. When they are, only an organization administrator is allowed to change them. When they are not, only a system administrator is allowed to change them.

Hybrid Tables: A few tables can contain EPA-managed values and locally managed values. In the case of tables like "Analytical Method" and "Metric Type", EPA has built-in support for local values by providing an organization-specific context that can be used to designate local values. However, a few other tables (for example, "Characteristic", "Taxon", and "Result Measure Qualifier") are actually EPA-managed tables in WQX that have been extended in AWQMS to allow local values, which are flagged as "not WQX-compatible." This way, the system knows to not export them when sending data to WQX. Values with an organization-specific context can be modified by an organization administrator. All other values can only be modified by a system administrator.

Lookup Tables

Table Type:

- [CITATION](#)
- [FUNCTIONAL FEEDING GROUP](#)
- [INDEX TYPE](#)
- [LAB SAMPLE PREPARATION METHOD](#)
- [LABORATORY](#)
- [PERSONNEL](#)
- [SAMPLE COLLECTION METHOD](#)
- [SAMPLE PREPARATION METHOD](#)
- [THRESHOLD](#)

Select the link for the table you wish to view (for example, Personnel).

Select the Organization for the Personnel.

Lookup Table - Personnel

Organization: TESTRYAN

Add/Edit/Delete rows as needed.

Lookup Table - Personnel

Organization: TESTRYAN

	<u>Name*</u>	<u>Affiliation</u>	<u>Last Change Date</u>
Delete	<input type="text" value="Brent Walls"/>	<input type="text" value="Chester River Association"/>	1/27/2005 8:06:56 AM
Delete	<input type="text" value="Valerie Donaldson"/>	<input type="text" value="Talbot Stream Watchers"/>	4/12/2005 8:11:25 AM
Delete	<input type="text" value="John McCarthy"/>	<input type="text" value="The Talbot River Protective"/>	1/27/2005 8:06:51 AM
	<input type="text"/>	<input type="text"/>	

Row 1 - 3 of 3

Select the Save or Return button to save your changes.

